August 04, 2017

Report to:

**Trevor Mueller** 

Stewart Environmental Consultants, Inc.

2600 Canton Ct.

Unit C

Fort Collins, CO 80525

cc: Trevor Mueller

Bill to:

Accounts Payable

Stewart Environmental Consultants, Inc.

2600 Canton Ct.

Unit C

Fort Collins, CO 80525

Project ID:

ACZ Project ID: L38583

Trevor Mueller:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on July 20, 2017. This project has been assigned to ACZ's project number, L38583. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L38583. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after September 03, 2017. If the samples are determined to be hazardous, additional charges apply for disposal (typically \$11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

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Inorganic Analytical Results

Stewart Environmental Consultants, Inc.

Project ID:

Sample ID:

MW-12

ACZ Sample ID: L38583-01

Date Sampled: 07/19/17 13:00

Date Received: 07/20/17

Sample Matrix: Waste Water

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual XQ	Units	MDL	PQL	Date	Analyst
Carbon, total organic (TOC)	SM5310B	1	63.3	*	mg/L	1	5	08/01/17 11:00	bce

Arizona license number: AZ0102

Inorganic Reference

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Report Header	Explanations
Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5).
	Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample T	ypes		
AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	LFM	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	LFMD	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	LRB	Laboratory Reagent Blank
ICB	Initial Calibration Blank	MS	Matrix Spike
ICV	Initial Calibration Verification standard	MSD	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	PBS	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	PBW	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	PQV	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	SDL	Serial Dilution

CARGOTTO.					
1010	Sample	Type	क्र	planation	F

Blanks Verifies that there is no or minimal contamination in the prep method or calibration procedure.

Control Samples Verifies the accuracy of the method, including the prep procedure.

Duplicates Verifies the precision of the instrument and/or method. Spikes/Fortified Matrix Determines sample matrix interferences, if any.

Standard Verifies the validity of the calibration.

# ACZ Qualifiers (Qual)

В	Analyte concentration detected at a value between MDL and PC	L. The associated value is an estimated quantity.
---	--	---

- H Analysis exceeded method hold time. pH is a field test with an immediate hold time.
- L Target analyte response was below the laboratory defined negative threshold.
- U The material was analyzed for, but was not detected above the level of the associated value.

The associated value is either the sample quantitation limit or the sample detection limit.

#### Method References

(*	1)	EPA 600/4-83-020	Methods for Chemical Analysis of Water and Wastes, March 1983.
	'/	LI A 000/4-03-020.	Metilode for Orientidal Arialysis of Water and Wastes, March 1000.

- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples Supplement I, May 1994.
- (4) EPA SW-846. Test Methods for Evaluating Solid Waste.
- (5) Standard Methods for the Examination of Water and Wastewater.

#### Comments

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
- (4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
- (5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:

http://www.acz.com/public/extquallist.pdf

REP001.03.15.02

L38583-1708041332 Page 3 of 8

(800) 334-5493

# Inorganic Extended Qualifier Report

ACZ Project ID: L38583

# **Stewart Environmental Consultants, Inc.**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L38583-01	NG427972	Carbon, total organic (TOC)	SM5310B	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			SM5310B	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL)

Certification Qualifiers

Stewart Environmental Consultants, Inc.

ACZ Project ID: L38583

No certification qualifiers associated with this analysis

# Sample Receipt

Stewart Environmental Consultants, Inc.	ACZ Project ID  Date Received  Received By	07/20/20	L38583
	Date Printed		7/20/2017
Receipt Verification		ALSO DO	38300
	YE	S NO	NA
Is a foreign soil permit included for applicable samples?			X
Is the Chain of Custody form or other directive shipping papers present?	X		O.F.
Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			Х
5) If samples are received past hold time, proceed with requested short hold time ana	llyses? X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the s	amples?	Х	
Samples/Containers		1000	503000
	YE	s NO	NA
8) Are all containers intact and with no leaks?	X		Towns.
9) Are all labels on containers and are they intact and legible?	X		(Carried )
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and	Time? X		190
11) For preserved bottle types, was the pH checked and within limits? 1		X	
L38583-01 Container B1864786 (YELLOW GLASS): Added 8 mls sulfuric acid to the sub-sample to adjust the pH to the appropriate range.			
12) Is there sufficient sample volume to perform all requested work?	X		14 15 15
13) Is the custody seal intact on all containers?			Х
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		DA CON
16) Is there an Hg-1631 trip blank present?			Х
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		
Chain of Custody Related Remarks	FLATIN	THE STATE OF THE PARTY OF THE P	
Client Contact Remarks	AT JENNIS	893 c. V	Freeze
Shipping Containers			1 18 19

Cooler
COOTET

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?		
		criteria ( c)		incacc:		
4413	0.3	<=6.0	15	N/A		

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.



Sample Receipt

Stewart Environmental Consultants, Inc.

ACZ Project ID:

L38583

Date Received: 07/20/2017 11:33

Received By:

Date Printed:

7/20/2017

<sup>1</sup> The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

# )DY RECORD

STEWART ENVIRONMENT AL CONSULTANTS, INC.
3801 Automation Way, Suite 200, Fort Collins, CO 80525

238583

# 

Telephone: (970) 226-5500

Facsimile: (

PAGE \_\_\_\_ OF \_\_\_

	CLIENT:	Stratus Companies - ACZ								Name: J	R SAMPLER R STEEDER	
Sample No.	SAMPLE	COLLECTIO	N INFO							Signature:		
3	Date	Time	Grab / Comp	CLIENT SA	MPLE IDEN	TIFICATION	Matrix Type	QC Report Needed	Total No. of Cont.	C	ANALYSES REQUESTED	
	7/19/17	13:00	6	MIZ	-14		le	Y		Phenols-		
											nic Carbon	
										Metrico 8279 (e	all nermal sempounds, including those below)	
										Benzyl Bu	ıtyl Phthalate	
										Bis(2-ethy	/lhexyl) phthalate	
										Di-n-buty	Phthalate	
										Diethyl Ph	nthalate	
										Dimethyl	Phthalate	
										Di-n-octyl	Phthalate	
									1.4-Dioxane			
										Benzoic Acid		
										Bencyl alcohol		
										2-Methylp	henoi	
Compliance	samples may	require you t	o report the te	mperature of	samples as th	ey arrive in th	e laborator	y. Would yo	ou like the tem	perature of sa	amples recorded upon receipt by the	
Leaving this	s field blank i	mplies that t	he incoming t	temperature i	s not reques	ted.					1	
RELINQUISI		DATE / TIME	Received by	-//	Date / Time	REQUESTE	D: COMPLE	TRON DATI		REPORT TO:	PHONE:	
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Relinguished	hv		Received by	/ 1/	Date / Time	200000000000000000000000000000000000000	MATE	IX TYPE	3000000000000	CLIENT:		
reminquismou	J	Date / Time		7/0 /			WW = wa			ADDRESS:		
CTF	Thake	1630	by	1/20/1	2 /133	DW = drinking water		CITY, STATE ZI	D.			
Relinguished			Received by	/ /	Date / Time	L = Liquid S = soil SL = sludge			sludge .	OIT, SIAIE Z	r.	
						À≕	Air	SD.	= Solid	INVOICE TO:		
								ORT REQUIR		ADDRESS:		
	try By					PWSID#						
						Sa	mple Kit S	ent? Yes	No	CITY, STATE ZI	P:	

August 04, 2017

Report to:

Trevor Mueller

Stewart Environmental Consultants, Inc.

2600 Canton Ct.

Unit C

Fort Collins, CO 80525

cc: Trevor Mueller

Bill to:

Accounts Payable

Stewart Environmental Consultants, Inc.

2600 Canton Ct.

Unit C

Fort Collins, CO 80525

Project ID:

ACZ Project ID: L38458

Trevor Mueller:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on July 14, 2017. This project has been assigned to ACZ's project number, L38458. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L38458. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after September 03, 2017. If the samples are determined to be hazardous, additional charges apply for disposal (typically \$11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

re Wellen







Inorganic Analytical Results

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

**Stewart Environmental Consultants, Inc.** 

Project ID:

Sample ID:

MW-13

ACZ Sample ID: L38458-01

Date Sampled: 07/12/17 10:00

Date Received: 07/14/17

Sample Matrix: Waste Water

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Carbon, total organic (TOC)	SM5310B	1	38.4		*	mg/L	1	5	08/01/17 11:00	bce

Arizona license number: AZ0102



2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5).
	Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample T	ypes	39 39 30	Kara San San San San San San San San San Sa
AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	LFM	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	LFMD	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	LRB	Laboratory Reagent Blank
ICB	Initial Calibration Blank	MS	Matrix Spike
ICV	Initial Calibration Verification standard	MSD	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	PBS	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	PBW	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	PQV	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	SDL	Serial Dilution

QC Sample	Type	Explana	tions
Co Campic	A second	LAPILLITE	HIGHE

Blanks Verifies that there is no or minimal contamination in the prep method or calibration procedure.

Control Samples Verifies the accuracy of the method, including the prep procedure.

Duplicates Verifies the precision of the instrument and/or method. Spikes/Fortified Matrix Determines sample matrix interferences, if any.

Standard Verifies the validity of the calibration.

#### ACZ Qualifiers (Qual

В	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
Н	Analysis exceeded method hold time. pH is a field test with an immediate hold time.

L Target analyte response was below the laboratory defined negative threshold.

U The material was analyzed for, but was not detected above the level of the associated value.

The associated value is either the sample quantitation limit or the sample detection limit.

#### Method References

(1)	EPA 600/4-83-020.	Methods for Chemical Analysis of Water and Wastes, March 1983.
-----	-------------------	--

- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples Supplement I, May 1994.
- (4) EPA SW-846. Test Methods for Evaluating Solid Waste.
- (5) Standard Methods for the Examination of Water and Wastewater.

#### Comments

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
- (4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
- (5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:

http://www.acz.com/public/extquallist.pdf

REP001.03.15.02

Inorganic QC Summary

# Stewart Environmental Consultants, Inc.

ACZ Project ID: L38458

Carbon, total o	rganic (T	OC)	SM5310B										
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG427972													
WG427972ICV	ICV	08/01/17 11:00	WI170707-1	100		104	mg/L	104	90	110			
WG427972ICB	ICB	08/01/17 11:00				U	mg/L		-3	3			
WG427972LFB	LFB	08/01/17 11:00	WI170531-4	50		49.2	mg/L	98	90	110			
L38390-01DUP	DUP	08/01/17 11:00			87.3	91.6	mg/L				5	20	R/
L38391-01AS	AS	08/01/17 11:00	WI170531-4	1000	29.9	1020	mg/L	99	90	110			

L38458-1708041330 Page 4 of 18 (800) 334-5493

# Inorganic Extended Qualifier Report

Stewart Environmental Consultants, Inc.

ACZ Project ID: L38458

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L38458-01	NG427972	Carbon, total organic (TOC)	SM5310B	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			SM5310B	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

Project ID:

Sample ID:

MW-13

ACZ Sample ID: *L38458-01* 

Date Sampled: 07/12/17 10:00

Date Received: 07/14/17
Sample Matrix: Waste Water

# Base Neutral Acid Extractables by GC/MS

Analysis Method: M8270C GC/MS

Extract Method: M3520C

Workgroup: WG427395

Analyst: itn

Extract Date: 07/17/17 13:45 Analysis Date: 07/24/17 16:28

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
1,2,4-Trichlorobenzene	120-82-1		U	0.93	*	ug/L	2	9
1,2-Dichlorobenzene	95-50-1		U	0.93	*	ug/L	2	9
1,3-Dichlorobenzene	541-73-1		U	0.93	*	ug/L	2	9
1,4-Dichlorobenzene	106-46-7		U	0.93	*	ug/L	2	9
1,4-Dioxane	123-91-1	41		0.93	*	ug/L	2	9
2,4,5-Trichlorophenol	95-95-4		U	0.93	*	ug/L	9	50
2,4,6-Trichlorophenol	88-06-2		U	0.93	*	ug/L	2	9
2,4-Dichlorophenol	120-83-2		U	0.93	*	ug/L	2	9
2,4-Dimethylphenol	105-67-9		U	0.93	*	ug/L	4	20
2,4-Dinitrophenol	51-28-5		U	0.93	*	ug/L	20	50
2,4-Dinitrotoluene	121-14-2		U	0.93	*	ug/L	2	9
2,6-Dinitrotoluene	606-20-8		U	0.93	*	ug/L	9	50
2-Chloronaphthalene	91-58-7		U	0.93	*	ug/L	2	9
2-Chlorophenol	95-57-8		U	0.93	*	ug/L	2	9
2-Methylnaphthalene	91-57-6		U	0.93	*	ug/L	2	9
2-Methylphenol	95-48-7		U	0.93	*	ug/L	2	9
2-Nitroaniline	88-74-4		U	0.93	*	ug/L	9	50
2-Nitrophenol	88-75-5		U	0.93	*	ug/L	4	20
3- & 4-Methylphenol	1319-77-3		U	0.93	*	ug/L	4	20
3,3-Dichlorobenzidine	91-94-1		U	0.93	*	ug/L	20	50
3-Nitroaniline	99-09-2		U	0.93	*	ug/L	9	50
4,6-Dinitro-2-methylphenol	534-52-1		U	0.93	*	ug/L	9	50
4-Bromophenyl phenyl ether	101-55-3		U	0.93	*	ug/L	2	9
4-Chloro-3-methylphenol	59-50-7		U	0.93	*	ug/L	2	9
4-Chloroaniline	106-47-8		U	0.93	*	ug/L	2	9
4-Chlorophenyl phenyl ether	7005-72-3		U	0.93	*	ug/L	2	9
4-Nitroaniline	100-01-6		U	0.93	*	ug/L	9	50
4-Nitrophenol	100-02-07		U	0.93	*	ug/L	9	50
Acenaphthene	83-32-9		U	0.93	*	ug/L	2	9
Acenaphthylene	208-96-8		U	0.93	*	ug/L	2	9
Aniline	62-53-3		U	0.93	*	ug/L	9	50
Anthracene	120-12-7		U	0.93	*	ug/L	2	9
Azobenzene	103-33-3		U	0.93	*	ug/L	9	50
Benzidine	92-87-5		U	0.93	*	ug/L	4	20
Benzo(a)anthracene	56-55-3		U	0.93	*	ug/L	2	9
Benzo(a)pyrene	50-32-8		U	0.93	*	ug/L	2	9
Benzo(b)fluoranthene	205-99-2		U	0.93	*	ug/L	2	9
Benzo(g,h,i)perylene	191-24-2		U	0.93	*	ug/L	2	9

<sup>\*</sup> Please refer to Qualifier Reports for details.

Project ID:

Sample ID:

MW-13

ACZ Sample ID: L38458-01

Date Sampled: 07/12/17 10:00

Date Received: 07/14/17
Sample Matrix: Waste Water

			Sal	mpie iviati	IX: V	vaste v	vater	
Benzo(k)fluoranthene	207-08-9		U	0.93	*	ug/L	2	9
Benzoic Acid	65-85-0		U	0.93	*	ug/L	20	50
Benzyl alcohol	100-51-6		U	0.93	*	ug/L	2	9
Bis(2-chloroethoxy)methane	111-91-1		U	0.93	*	ug/L	2	9
Bis(2-chloroethyl) ether	111 <del>-44-4</del>		U	0.93	*	ug/L	2	9
Bis(2-chloroisopropyl) ether	108-60-1		U	0.93	*	ug/L	2	9
Bis(2-ethylhexyl) phthalate	117-81-7		U	0.93	*	ug/L	4	20
Butyl benzyl phthalate	85-68-7		U	0.93	*	ug/L	2	9
Chrysene	218-01-9		U	0.93	*	ug/L	2	9
Dibenzo(a,h)anthracene	53-70-3		U	0.93	*	ug/L	2	9
Dibenzofuran	132-64-9		U	0.93	*	ug/L	2	9
Diethylphthalate	84-66-2		U	0.93	*	ug/L	2	9
Dimethyl phthalate	131-11-3		U	0.93	*	ug/L	2	9
Di-n-butyl phthalate	84-74-2		U	0.93	*	ug/L	2	9
Di-n-octyl phthalate	117-84-0		U	0.93	*	ug/L	2	9
Fluoranthene	206-44-0		U	0.93	*	ug/L	2	9
Fluorene	86-73-7		U	0.93	*	ug/L	2	9
Hexachlorobenzene	118-74-1		U	0.93	*	ug/L	2	9
Hexachlorobutadiene	87-68-3		U	0.93	*	ug/L	2	9
Hexachlorocyclopentadiene	77-47-4		U	0.93	*	ug/L	4	20
Hexachloroethane	67-72-1		U	0.93	*	ug/L	2	9
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.93	*	ug/L	2	9
Isophorone	78-59-1		U	0.93	*	ug/L	2	9
Naphthalene	91-20-3		U	0.93	*	ug/L	2	9
Nitrobenzene	98-95-3		U	0.93	*	ug/L	2	9
N-Nitrosodimethylamine	62-75-9		U	0.93	*	ug/L	9	50
N-Nitrosodi-n-propylamine	621-64-7		U	0.93	*	ug/L	2	9
N-Nitrosodiphenylamine	86-30-6		υ	0.93	*	ug/L	2	9
Pentachlorophenol	87-86-5		U	0.93	*	ug/L	9	50
Phenanthrene	85-01-8		U	0.93	*	ug/L	2	9
Phenol	108-95-2		U	0.93	*	ug/L	4	20
Pyrene	129-00-0		U	0.93	*	ug/L	2	9
Surrogate Recoveries	CAS	% Recovery		Dilution	XQ	Units	LCL	UCL
2,4,6-Tribromophenol	118-79-6	102.5		0.93	*	%	40	125
2-Fluorobiphenyl	321-60-8	86		0.93	*	%	50	110
2-Fluorophenol	367-12-4	71.7		0.93	*	%	54	100
Nitrobenzene-d5	4165-60-0	83.1		0.93	*	%	40	110
Phenol-d6	13127-88-3	87		0.93	*	%	47	113
Terphenyl-d14	1718-51-0	55.1		0.93	*	%	50	135

Arizona license number: AZ0102

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Report Header	Explanations
Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
LCL	Lower Control Limit
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #4)
	Allows for instrument and annual fluctuations.
<b>PCN/SCN</b>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
UCL	Upper Control Limit
Sample	Value of the Sample of interest
QC Sample Typ	pes de la companya d

SURR	Surrogate	LFM	Laboratory Fortified Matrix
INTS	Internal Standard	LFMD	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	LRB	Laboratory Reagent Blank
LCSS	Laboratory Control Sample - Soil	MS/MSD	Matrix Spike/Matrix Spike Duplicate
LCSW	Laboratory Control Sample - Water	PBS	Prep Blank - Soil
LFB	Laboratory Fortified Blank	PBW	Prep Blank - Water

QC Sample	Туре	Explanations
Blanks		

Verifies that there is no or minimal contamination in the prep method or calibration procedure.

Control Samples Verifies the ac

Verifies the accuracy of the method, including the prep procedure. Verifies the precision of the instrument and/or method.

Duplicates Verifies the precision of the instrument and/or method Spikes/Fortified Matrix Determines sample matrix interferences, if any.

ACZ Qualifiers (Qual)

Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.

Analyte concentration is estimated due to result exceeding calibration range.

Analysis exceeded method hold time. pH is a field test with an immediate hold time.

Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.

Target analyte response was below the laboratory defined negative threshold.

U The material was analyzed for, but was not detected above the level of the associated value.

The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.

(2) EPA 600/4-90/020. Methods for the Determination of Organic Compounds in Drinking Water (I), July 1990.

(3) EPA 600/R-92/129. Methods for the Determination of Organic Compounds in Drinking Water (II), July 1990.

(4) EPA SW-846. Test Methods for Evaluating Solid Waste.

(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.

(2) Excluding Oil & Grease, solid & biological matrices for organic analyses are reported on a wet weight basis.

(3) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier

associated with the result.

(4) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:

http://www.acz.com/public/extquallist.pdf

REP002.03.15.02

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ACZ Project ID: L38458

# **Base Neutral Acid Extractables by GC/MS**

M8270C GC/MS

### WG427395

MS Sample II	D: L38390-01MS		PCN/S	CN: OPB	NA17052	3-1	Analy	zed:	07/21	/17 15:50
Compound	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
1,2,4-TRICHLOROBENZENE	50013	U	25	ug/L	53.0	35	105			
1,4-DICHLOROBENZENE	50013	U	28.6	ug/L	61.0	30	100			
2,4-DINITROTOLUENE	50013	U	34.9	ug/L	74.0	50	120			
2-CHLOROPHENOL	75080	U	50.1	ug/L	71.0	35	105			
4-CHLORO-3-METHYLPHENOL	75040	U	61.1	ug/L	86.0	45	110			
4-NITROPHENOL	75120	U	67	ug/L	95.0	0	125			
ACENAPHTHENE	50007	U	24.5	ug/L	52.0	45	110			
N-NITROSODI-N-PROPYLAMINE	50027	U	35.7	ug/L	76.0	35	130			
PENTACHLOROPHENOL	75040	U	31	ug/L	44.0	40	115			
PHENOL	75060	U	52.7	ug/L	74.0	0	115			
PYRENE	50003	U	U	ug/L	0.0	50	130			M2
2,4,6-TRIBROMOPHENOL (surr)				%	77.9	40	125			
2-FLUOROBIPHENYL (surr)				%	61.0	50	110			
2-FLUOROPHENOL (surr)				%	71.0	54	100			
NITROBENZENE-D5 (surr)				%	79.2	40	110			
PHENOL-D6 (surr)				%	83.8	47	113			
TERPHENYL-D14 (surr)				%	10.1	50	135			S6

DUP	Sample ID: L38391-01	DUP						Analyzed:		07/21	/17 16:57
Compound	Marine Republication Park	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
1,2,4-TRICHLOROBENZEN	E		U	υ	ug/L				0	20	RA
1,2-DICHLOROBENZENE			U	U	ug/L				0	20	RA
1,3-DICHLOROBENZENE			U	U	ug/L				0	20	RA
1,4-DICHLOROBENZENE			U	4	ug/L				200	20	RA
1,4-DIOXANE			12	12.4	ug/L				3	20	RA
2,4,5-TRICHLOROPHENOL			U	U	ug/L				0	20	RA
2,4,6-TRICHLOROPHENOL			U	U	ug/L				0	20	RA
2,4-DICHLOROPHENOL			U	U	ug/L				0	20	RA
2,4-DIMETHYLPHENOL			U	U	ug/L				0	20	RA
2,4-DINITROPHENOL			U	υ	ug/L				0	20	RA
2,4-DINITROTOLUENE			U	U	ug/L				0	20	RA
2,6-DINITROTOLUENE			U	υ	ug/L				0	20	RA
2-CHLORONAPHTHALENE			U	U	ug/L				0	20	RA
2-CHLOROPHENOL			U	U	ug/L				0	20	RA
2-METHYLNAPHTHALENE			U	U	ug/L				0	20	RA
2-METHYLPHENOL			U	U	ug/L				0	20	RA
2-NITROANILINE			U	U	ug/L				0	20	RA
2-NITROPHENOL			U	U	ug/L				0	20	RA
3- & 4-METHYLPHENOL			U	U	ug/L				0	20	RA
3,3-DICHLOROBENZIDINE			U	U	ug/L				0	20	RA
3-NITROANILINE			U	U	ug/L				0	20	RA
4,6-DINITRO-2-METHYLPHE	ENOL		U	U	ug/L				0	20	RA
4-BROMOPHENYL PHENYL	ETHER		U	U	ug/L				0	20	RA
4-CHLORO-3-METHYLPHE	NOL		U	U	ug/L				0	20	RA

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ACZ Project ID: L38458

4-CHLOROANILINE	U	U	ug/L				0	20	
4-CHLOROPHENYL PHENYL ETHER	U	υ	ug/L				0	20	
4-NITROANILINE	U	U	ug/L				0	20	
4-NITROPHENOL	U	U	ug/L				0	20	
ACENAPHTHENE	U	U	ug/L				0	20	
ACENAPHTHYLENE	U	U	ug/L				0	20	
ANILINE	U	U	ug/L				0	20	
ANTHRACENE	U	U	ug/L				0	20	
AZOBENZENE	U	U	ug/L				0	20	
BENZIDINE	U	U	ug/L				0	20	
BENZO(A)ANTHRACENE	U	U	ug/L				0	20	
BENZO(A)PYRENE	U	U	ug/L				0	20	
BENZO(B)FLUORANTHENE	U	U	ug/L				0	20	
BENZO(G,H,I)PERYLENE	U	U	ug/L				0	20	
BENZO(K)FLUORANTHENE	U	U	ug/L				0	20	
BENZOIC ACID	U	U	ug/L				0	20	
BENZYL ALCOHOL	U	U	ug/L				0	20	
BIS(2-CHLOROETHOXY)METHANE	U	U	ug/L				0	20	
BIS(2-CHLOROETHYL) ETHER	U	U	ug/L				0	20	
BIS(2-CHLOROISOPROPYL) ETHER	U	U	ug/L				0	20	
BIS(2-ETHYLHEXYL) PHTHALATE	U	U	ug/L				0	20	
BUTYL BENZYL PHTHALATE	U	U	ug/L				0	20	
CHRYSENE	U	U	ug/L				0	20	
DIBENZO(A,H)ANTHRACENE	U	U	ug/L				0	20	
DIBENZOFURAN	U	U	ug/L				0	20	
DIETHYLPHTHALATE	U	U	ug/L				0	20	
DIMETHYL PHTHALATE	U	U	ug/L				0	20	
DI-N-BUTYL PHTHALATE	U	U	ug/L				0	20	
DI-N-OCTYL PHTHALATE	U	U	ug/L				0	20	
FLUORANTHENE	U	U	ug/L				0	20	
FLUORENE	U	U	ug/L				0	20	
HEXACHLOROBENZENE	U	U	ug/L				0	20	
HEXACHLOROBUTADIENE	U	U	ug/L				0	20	
HEXACHLOROCYCLOPENTADIENE	U	U	ug/L				0	20	
HEXACHLOROETHANE	U	U	ug/L				0	20	
INDENO(1,2,3-CD)PYRENE	U	U	ug/L				0	20	
ISOPHORONE	U	U	ug/L				0	20	
NAPHTHALENE	U	U	ug/L				0	20	
NITROBENZENE	U	U	ug/L				0	20	
N-NITROSODIMETHYLAMINE	U	U	ug/L				0	20	
N-NITROSODI-N-PROPYLAMINE	U	U	ug/L				0	20	
N-NITROSODIPHENYLAMINE	U	U	ug/L				0	20	
PENTACHLOROPHENOL	U	U	ug/L				0	20	
PHENANTHRENE	U	U	ug/L				0	20	
PHENOL	U	U	ug/L				0	20	
PYRENE	U	U	ug/L				0	20	
2,4,6-TRIBROMOPHENOL (surr)			%	94.5	40	125			
2-FLUOROBIPHENYL (surr)			%	76.0	50	110			
2-FLUOROPHENOL (surr)			%	71.5	54	100			

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NITROBENZENE-D5 (surr)	%	77.3	40	110	
PHENOL-D6 (surr)	%	83.6	47	113	
TERPHENYL-D14 (surr)	%	20.4	50	135	S6

LCSW	Sample ID:	WG426931LCSW	31LCSW		CN: OPB	PCN/SCN: OPBNA170523-1			yzed:	07/21	/17 14:10
Compound	1 1 1 2 2 1	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
1,2,4-TRICHLOROBENZENI	E	50013		33,2	ug/L	66.0	35	105			
1,4-DICHLOROBENZENE		50013		31.7	ug/L	63.0	30	100			
2,4-DINITROTOLUENE		50013		43.3	ug/L	87.0	50	120			
2-CHLOROPHENOL		75080		53.5	ug/L	71.0	35	105			
4-CHLORO-3-METHYLPHE	NOL	75040		58.4	ug/L	78.0	45	110			
4-NITROPHENOL		75120		59	ug/L	79.0	0	125			
ACENAPHTHENE		50007		38	ug/L	76.0	45	110			
N-NITROSODI-N-PROPYLA	MINE	50027		38.4	ug/L	77.0	35	130			
PENTACHLOROPHENOL		75040		55	ug/L	73.0	40	115			
PHENOL		75060		53.4	ug/L	71.0	0	115			
PYRENE		50003		41.7	ug/L	83.0	50	130			
2,4,6-TRIBROMOPHENOL (	surr)				%	90.8	40	125			
2-FLUOROBIPHENYL (surr)					%	79.8	50	110			
2-FLUOROPHENOL (surr)					%	72.8	54	100			
NITROBENZENE-D5 (surr)					%	82.1	40	110			
PHENOL-D6 (surr)					%	80.5	47	113			
TERPHENYL-D14 (surr)					%	95.3	50	135			

LCSWD Sample ID:	WG426931LCSWD	PCN/S	PCN/SCN: OPBNA170523-1				/zed:	: 07/21/17 14:44	
Compound	QC Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
1,2,4-TRICHLOROBENZENE	50013	35.1	ug/L	70.0	35	105	6	20	
1,4-DICHLOROBENZENE	50013	34.5	ug/L	69.0	30	100	8	20	
2,4-DINITROTOLUENE	50013	44.1	ug/L	88.0	50	120	2	20	
2-CHLOROPHENOL	75080	56.5	ug/L	75.0	35	105	5	20	
4-CHLORO-3-METHYLPHENOL	75040	60	ug/L	80.0	45	110	3	20	
4-NITROPHENOL	75120	58	ug/L	77.0	0	125	2	20	
ACENAPHTHENE	50007	40.4	ug/L	81.0	45	110	6	20	
N-NITROSODI-N-PROPYLAMINE	50027	40.6	ug/L	81.0	35	130	6	20	
PENTACHLOROPHENOL	75040	56	ug/L	75.0	40	115	2	20	
PHENOL	75060	54.6	ug/L	73.0	0	115	2	20	
PYRENE	50003	42.6	ug/L	85.0	50	130	2	20	
2,4,6-TRIBROMOPHENOL (surr)			%	88.8	40	125			
2-FLUOROBIPHENYL (surr)			%	80.6	50	110			
2-FLUOROPHENOL (surr)			%	71.6	54	100			
NITROBENZENE-D5 (surr)			%	82.5	40	110			
PHENOL-D6 (surr)			%	77.1	47	113			
TERPHENYL-D14 (surr)			%	93.7	50	135			

PBW	BW Sample ID: WG426931PBW						Anal	Analyzed:		/17 13:37	
Compound	THE REAL PROPERTY.	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
1,2,4-TRICHLOROBEN	ZENE			U	ug/L		-10	10			
1,2-DICHLOROBENZEN	NE			U	ug/L		-10	10			
1,3-DICHLOROBENZEN	NE			U	ug/L		-10	10			

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ACZ Project ID: L38458

1,4-DICHLOROBENZENE	U	ug/L	-10	10	
1,4-DIOXANE	U	ug/L	-10	10	
2,4,5-TRICHLOROPHENOL	U	ug/L	-50	50	
2,4,6-TRICHLOROPHENOL	U	ug/L	-10	10	
2,4-DICHLOROPHENOL	U	ug/L	-10	10	
2,4-DIMETHYLPHENOL	U	ug/L	-20	20	
2,4-DINITROPHENOL	U	ug/L	-50	50	
2,4-DINITROTOLUENE	U	ug/L	-10	10	
2,6-DINITROTOLUENE	U	ug/L	-50	50	
2-CHLORONAPHTHALENE	U	ug/L	-10	10	
2-CHLOROPHENOL	U	ug/L	-10	10	
2-METHYLNAPHTHALENE	U	ug/L	-10	10	
2-METHYLPHENOL	U	ug/L	-10	10	
2-NITROANILINE	U	ug/L	-50	50	
2-NITROPHENOL	U	ug/L	-20	20	
3- & 4-METHYLPHENOL	U	ug/L	-20	20	
3,3-DICHLOROBENZIDINE	U	ug/L	-50	50	
3-NITROANILINE	U	ug/L	-50	50	
4,6-DINITRO-2-METHYLPHENOL	U	ug/L	-50	50	
4-BROMOPHENYL PHENYL ETHER	U	ug/L	-10	10	
4-CHLORO-3-METHYLPHENOL	U	ug/L	-10	10	
4-CHLOROANILINE	U	ug/L	-10	10	
4-CHLOROPHENYL PHENYL ETHER	U	ug/L	-10	10	
4-NITROANILINE	U	ug/L	-50	50	
4-NITROPHENOL	U	ug/L	-50	50	
ACENAPHTHENE	U	ug/L	-10	10	
ACENAPHTHYLENE	U	ug/L	-10	10	
ANILINE	U	ug/L	-50	50	
ANTHRACENE	U	ug/L	-10	10	
AZOBENZENE	U	ug/L	-50	50	
BENZIDINE	U	ug/L	-20	20	
BENZO(A)ANTHRACENE	U	ug/L	-10	10	
BENZO(A)PYRENE	U	ug/L	-10	10	
BENZO(B)FLUORANTHENE	U	ug/L	-10	10	
BENZO(G,H,I)PERYLENE	U	ug/L	-10	10	
BENZO(K)FLUORANTHENE	U	ug/L	-10	10	
BENZOIC ACID	U	ug/L	-50	50	
BENZYL ALCOHOL	U	ug/L	-10	10	
BIS(2-CHLOROETHOXY)METHANE	U	ug/L	-10	10	
BIS(2-CHLOROETHYL) ETHER	U	ug/L	-10	10	
BIS(2-CHLOROISOPROPYL) ETHER	U	ug/L	-10	10	
BIS(2-ETHYLHEXYL) PHTHALATE	U	ug/L	-20	20	
BUTYL BENZYL PHTHALATE	U	ug/L	-10	10	
CHRYSENE	U	ug/L	-10	10	
DIBENZO(A,H)ANTHRACENE	U	ug/L	-10	10	
DIBENZOFURAN	U	ug/L	-10	10	
DIETHYLPHTHALATE	U	ug/L	-10	10	
DIMETHYL PHTHALATE	U	ug/L	-10	10	

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TERPHENYL-D14 (surr)

Stewart Environmental Consultants, Inc. ACZ Project ID: L38458 **DI-N-OCTYL PHTHALATE** U ug/L -10 10 **FLUORANTHENE** U ug/L -10 10 **FLUORENE** U ug/L -10 10 **HEXACHLOROBENZENE** ug/L -10 10 **HEXACHLOROBUTADIENE** U ug/L -10 10 **HEXACHLOROCYCLOPENTADIENE** U ug/L -20 20 **HEXACHLOROETHANE** U -10 ug/L 10 INDENO(1,2,3-CD)PYRENE U ug/L -10 10 **ISOPHORONE** U ug/L -10 10 **NAPHTHALENE** U ug/L -10 10 U **NITROBENZENE** ug/L -10 10 N-NITROSODIMETHYLAMINE U ug/L -50 50 N-NITROSODI-N-PROPYLAMINE U ug/L -10 10 U N-NITROSODIPHENYLAMINE ug/L -10 10 **PENTACHLOROPHENOL** U -50 50 ug/L U PHENANTHRENE -10 ug/L 10 PHENOL ug/L -20 20 **PYRENE** ug/L -10 10 2,4,6-TRIBROMOPHENOL (surr) % 77.4 40 125 2-FLUOROBIPHENYL (surr) 74.9 50 110 % 2-FLUOROPHENOL (surr) 71.1 54 100 110 NITROBENZENE-D5 (surr) 77.2 40 % PHENOL-D6 (surr) % 77.3 47 113

91.2

50

135

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# Organic Extended Qualifier Report

ACZ Project ID: L38458

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L38458-01	WG427395	*All Compounds*	M8270C GC/MS		Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Pyrene	M8270C GC/MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.

Certification Qualifiers

Stewart Environmental Consultants, Inc.

ACZ Project ID: L38458

GC/MS

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

1,4-Dioxane

M8270C GC/MS

# Sample Receipt

Stewart Environmental	Consultants.	Inc.
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ACZ Project ID:

L38458

Date Received: 07/14/2017 10:31

L30430

Received By:

Date Printed:

7/14/2017

				Date Pr	intea:	//	14/2017		
Receipt Verification	MILES SE			-36	M. May	E SELL	1		
					YES	NO	NA		
1) Is a foreign soil permit inclu	ided for applic	cable samples?					X		
2) Is the Chain of Custody for	m or other dire	ective shipping par	pers present?		X				
3) Does this project require sp	ecial handling	g procedures such	as CLP protoco	l?			Х		
4) Are any samples NRC licer	nsable materia	al?					Х		
5) If samples are received pas	me analyses?	Х							
6) Is the Chain of Custody for		Х							
7) Were any changes made to	ng the samples?	Х		1000					
A change was made in the Right Side section prior to ACZ custody.									
Samples/Containers	13.85	A STATE OF	THE PERSON	WALL THE RE	WE BE	E TO SE	REPROJ		
					YES	NO	NA		
8) Are all containers intact and	d with no leak	s?			X				
9) Are all labels on containers	and are they	intact and legible?			Х				
10) Do the sample labels and	Chain of Cus	tody form match fo	r Sample ID, Da	te, and Time?	Х		7年1		
11) For preserved bottle types	, was the pH	checked and withir	n limits? 1			Х			
L38458-01 Contai sulfuric acid to appropriate rang	the sub-s								
12) Is there sufficient sample	volume to per	form all requested	work?		Х				
13) Is the custody seal intact of	on all containe	ers?					Χ		
14) Are samples that require z	ero headspa	ce acceptable?					Х		
15) Are all sample containers	appropriate fo	or analytical require	ements?			Χ			
L38458-01 : A Ye container create			t received a	nd a new					
16) Is there an Hg-1631 trip bl	ank present?						Χ		
17) Is there a VOA trip blank p	resent?						Х		
18) Were all samples received	d within hold ti	ime?			Х				
Chain of Custody Related Re	marks	A TO THE		BEST RE		ALS:	500		
Client Contact Remarks			(0.54) D/(2)	STORE THE	3000		1200		
Shipping Containers		The state of	2-1-16		HIE	3 12 m	120		
Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?					
3226	0.7	<=6.0	13	N/A					



Sample Receipt

Stewart Environmental Consultants, Inc.

ACZ Project ID:

L38458

Date Received: 07/14/2017 10:31

Received By:

Date Printed:

7/14/2017

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

# CHAIN ( L38458 Chain of Custod)

STEWART ENTIREM I AL CONSULTANTS, INC. 3801 Automation Way, Suite 200, Fort Collins, CO 80525

139458 Batch:

Telephone: (970) 226-5500

Facsimile: (

PAGE \_\_\_\_ OF \_\_\_

	CLIENT:			tratus (	ompan	ies - AC	•			Name: SAMPLER
Sample No.	SAMPLE	COLLECTIO	N INFO					QC	Total No.	Signature:
	Date	Time	Grab / Comp	CLIENT SA	MPLE IDENT	FIFICATION	Matrix Type	Report Neede	Total No. of Cont.	ANALYSES REQUESTED
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									3	Total Organic Carbon - ACZ
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							e laborat	ory. Wo	uld you like	the temperature of samples recorded upon receipt by the
	s field blank i		The second secon	The second secon						
RELINQUISI	BY	4 - 00	Received by		Date / Time	REQUESTE	D.COMP	LETION	DAIE	REPORT TO: PHONE:
7	0-11	THEMA								
9	,	7.13.17	12-	7/. /	1550				To be a second and	FAX:
Relinquished	l Inc	15:50	CFF	1/13/17		36 4 36	.51 15 to			CLIENT:
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	_//	,	10		1031				ter ¥ /ater	ADDRESS:
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						Sampl	e Kit Ser	it? <u>* Yes</u>	/ No.	CITY, STATE ZIP:



# Analytical Report

August 04, 2017

Report to:

**Trevor Mueller** 

Stewart Environmental Consultants, Inc.

2600 Canton Ct.

Unit C

Fort Collins, CO 80525

cc: Trevor Mueller

Bill to:

Accounts Payable

Stewart Environmental Consultants, Inc.

2600 Canton Ct.

Unit C

Fort Collins, CO 80525

Project ID:

ACZ Project ID: L38418

Trevor Mueller:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on July 13, 2017. This project has been assigned to ACZ's project number, L38418. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L38418. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after September 03, 2017. If the samples are determined to be hazardous, additional charges apply for disposal (typically \$11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

ne Wollin







Inorganic Analytical
Results

Stewart Environmental Consultants, Inc.

MW-15

Project ID:

Sample ID:

ACZ Sample ID: L38418-01

Date Sampled: 07/12/17 12:40

Date Received: 07/13/17

Sample Matrix: Waste Water

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual XQ	Units	MDL	PQL	Date	Analyst
Carbon, total organic (TOC)	SM5310B	20	141	*	mg/L	20	100	08/01/17 11:00	bce

Arizona license number: AZ0102



2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Report Header	Explanations
Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5).
	Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)

QC Sample Types			
aco oumpie Types		N. L. Switz	- 54

Sample

Value of the Sample of interest

metro	ACCURATE STORY			
	AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
	ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
	CCB	Continuing Calibration Blank	LFM	Laboratory Fortified Matrix
	CCV	Continuing Calibration Verification standard	LFMD	Laboratory Fortified Matrix Duplicate
	DUP	Sample Duplicate	LRB	Laboratory Reagent Blank
	ICB	Initial Calibration Blank	MS	Matrix Spike
	ICV	Initial Calibration Verification standard	MŞD	Matrix Spike Duplicate
	ICSAB	Inter-element Correction Standard - A plus B solutions	PB\$	Prep Blank - Soil
	LCSS	Laboratory Control Sample - Soil	PBW	Prep Blank - Water
	LCSSD	Laboratory Control Sample - Soil Duplicate	PQV	Practical Quantitation Verification standard
	LCSW	Laboratory Control Sample - Water	SDL	Serial Dilution

Bertin .	The Part of the Part of	Towns a	THE WOLLD	W - W
010	Samol	e Type	Explana	tions

Blanks Verifies that there is no or minimal contamination in the prep method or calibration procedure.

Control Samples Verifies the accuracy of the method, including the prep procedure.

Duplicates Verifies the precision of the instrument and/or method. Spikes/Fortified Matrix Determines sample matrix interferences, if any.

Standard Verifies the validity of the calibration.

W.L.	0	99	10 11	
A1974	(P) [15:1]	HEIS	(Qual)	

B Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.

H Analysis exceeded method hold time. pH is a field test with an immediate hold time.

L Target analyte response was below the laboratory defined negative threshold.

U The material was analyzed for, but was not detected above the level of the associated value.

The associated value is either the sample quantitation limit or the sample detection limit.

#### Method References

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples Supplement I, May 1994.
- (4) EPA SW-846. Test Methods for Evaluating Solid Waste.
- (5) Standard Methods for the Examination of Water and Wastewater.

		ie	

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
- (4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
- (5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:

 $\underline{http://www.acz.com/public/extquallist.pdf}$ 

REP001.03.15.02

ACZ Project ID: L38418

Carbon, total o	rganic (T	OC)	SM5310B										
ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG427972													
WG427972ICV	ICV	08/01/17 11:00	WI170707-1	100		104	mg/L	104	90	110			
WG427972ICB	ICB	08/01/17 11:00				U	mg/L		-3	3			
WG427972LFB	LFB	08/01/17 11:00	WI170531-4	50		49.2	mg/L	98	90	110			
L38390-01DUP	DUP	08/01/17 11:00			87.3	91.6	mg/L				5	20	R
L38391-01AS	AS	08/01/17 11:00	WI170531-4	1000	29.9	1020	mg/L	99	90	110			

L38418-1708041321 Page 4 of 18

Inorganic Extended Qualifier Report

# Stewart Environmental Consultants, Inc.

ACZ Project ID: L38418

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L38418-01	NG427972	Carbon, total organic (TOC)	SM5310B	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			SM5310B	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDI)

# Organic Analytical Results

Stewart Environmental Consultants, Inc.

Project ID:

Sample ID: MW-15

ACZ Sample ID: L38418-01

Date Sampled: 07/12/17 12:40

Date Received: 07/13/17
Sample Matrix: Waste Water

# Base Neutral Acid Extractables by GC/MS

Analysis Method: M8270C GC/MS

Extract Method: M3520C

Workgroup: WG427395

Analyst: itm

Extract Date: 07/17/17 13:36 Analysis Date: 07/21/17 18:04

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
1,2,4-Trichlorobenzene	120-82-1		U	3.72	*	ug/L	7	40
1,2-Dichlorobenzene	95-50-1		U	3.72	*	ug/L	7	40
1,3-Dichlorobenzene	541-73-1		U	3.72	*	ug/L	7	40
1,4-Dichlorobenzene	106-46-7		U	3.72	*	ug/L	7	40
1,4-Dioxane	123-91-1		U	3.72	*	ug/L	7	40
2,4,5-Trichlorophenol	95-95-4		U	3.72	*	ug/L	40	200
2,4,6-Trichlorophenol	88-06-2		U	3.72	*	ug/L	7	40
2,4-Dichlorophenol	120-83-2		U	3.72	*	ug/L	7	40
2,4-Dimethylphenol	105-67-9		U	3.72	*	ug/L	10	70
2,4-Dinitrophenol	51-28-5		U	3.72	*	ug/L	70	200
2,4-Dinitrotoluene	121-1 <del>4-</del> 2		U	3.72	*	ug/L	7	40
2,6-Dinitrotoluene	606-20-8		U	3.72	*	ug/L	40	200
2-Chloronaphthalene	91-58-7		U	3.72	*	ug/L	7	40
2-Chlorophenol	95-57-8		U	3.72	*	ug/L	7	40
2-Methylnaphthalene	91-57-6		U	3.72	*	ug/L	7	40
2-Methylphenol	95-48-7		U	3.72	*	ug/L	7	40
2-Nitroaniline	88-74-4		U	3.72	*	ug/L	40	200
2-Nitrophenol	88-75-5		U	3.72	*	ug/L	10	70
3- & 4-Methylphenol	1319-77-3		U	3.72	*	ug/L	10	70
3,3-Dichlorobenzidine	91-94-1		U	3.72	*	ug/L	70	200
3-Nitroaniline	99-09-2		U	3.72	*	ug/L	40	200
4,6-Dinitro-2-methylphenol	534-52-1		U	3.72	*	ug/L	40	200
4-Bromophenyl phenyl ether	101-55-3		U	3.72	*	ug/L	7	40
4-Chloro-3-methylphenol	59-50-7		U	3.72	*	ug/L	7	40
4-Chloroaniline	106 <del>-4</del> 7-8		U	3.72	*	ug/L	7	40
4-Chlorophenyl phenyl ether	7005-72-3		U	3.72	*	ug/L	7	40
4-Nitroaniline	100-01-6		U	3.72	*	ug/L	40	200
4-Nitrophenol	100-02-07		U	3.72	*	ug/L	40	200
Acenaphthene	83-32-9		U	3.72	*	ug/L	7	40
Acenaphthylene	208-96-8		U	3.72	*	ug/L	7	40
Aniline	62-53-3		U	3.72	*	ug/L	40	200
Anthracene	120-12-7		U	3.72	*	ug/L	7	40
Azobenzene	103-33-3		U	3.72	*	ug/L	40	200
Benzidine	92-87-5		U	3.72	*	ug/L	10	70
Benzo(a)anthracene	56-55-3		U	3.72	*	ug/L	7	40
Benzo(a)pyrene	50-32-8		U	3.72	*	ug/L	7	40
Benzo(b)fluoranthene	205-99-2		Ū	3.72	*	ug/L	7	40
Benzo(g,h,i)perylene	191-24-2		Ū	3.72	*	ug/L	7	40
Benzo(k)fluoranthene	207-08-9		Ū	3.72	*	ug/L	7	40
Benzoic Acid	65-85-0		Ü	3.72	*	ug/L	70	200
Benzyl alcohol	100-51-6		Ü	3.72	*	ug/L	7	40

REPOR.01.01.01.02

<sup>\*</sup> Please refer to Qualifier Reports for details.

Project ID:

Sample ID: MW-15 ACZ Sample ID: L38418-01 Date Sampled: 07/12/17 12:40

Date Received: 07/13/17

			Sa	mple Matri	x: V	Vaste V	Vater	
Bis(2-chloroethoxy)methane	111-91-1		U	3.72	*	ug/L	7	40
Bis(2-chloroethyl) ether	111-44-4		U	3.72	*	ug/L	7	40
Bis(2-chloroisopropyl) ether	108-60-1		U	3.72	*	ug/L	7	40
Bis(2-ethylhexyl) phthalate	117-81-7		U	3.72	*	ug/L	10	70
Butyl benzyl phthalate	85-68-7		U	3.72	*	ug/L	7	40
Chrysene	218-01-9		U	3.72	*	ug/L	7	40
Dibenzo(a,h)anthracene	53-70-3		U	3.72	*	ug/L	7	40
Dibenzofuran	132-64-9		U	3.72	*	ug/L	7	40
Diethylphthalate	84-66-2		U	3.72	*	ug/L	7	40
Dimethyl phthalate	131-11-3		U	3.72	*	ug/L	7	40
Di-n-butyl phthalate	84-74-2		U	3.72	*	ug/L	7	40
Di-n-octyl phthalate	117-84-0		U	3.72	*	ug/L	7	40
Fluoranthene	206-44-0		U	3.72	*	ug/L	7	40
Fluorene	86-73-7		U	3.72	*	ug/L	7	40
Hexachlorobenzene	118-74-1		U	3.72	*	ug/L	7	40
Hexachlorobutadiene	87-68-3		U	3.72	*	ug/L	7	40
Hexachlorocyclopentadiene	77-47-4		U	3.72	*	ug/L	10	70
Hexachloroethane	67-72-1		U	3.72	*	ug/L	7	40
Indeno(1,2,3-cd)pyrene	193-39-5		U	3.72	*	ug/L	7	40
Isophorone	78-59-1		U	3.72	*	ug/L	7	40
Naphthalene	91-20-3		U	3.72	*	ug/L	7	40
Nitrobenzene	98-95-3		U	3.72	*	ug/L	7	40
N-Nitrosodimethylamine	62-75-9		U	3.72	*	ug/L	40	200
N-Nitrosodi-n-propylamine	621-64-7		U	3.72	*	ug/L	7	40
N-Nitrosodiphenylamine	86-30-6		U	3.72	*	ug/L	7	40
Pentachlorophenol	87-86-5		U	3.72	*	ug/L	40	200
Phenanthrene	85-01-8		U	3.72	*	ug/L	7	40
Phenol	108-95-2		U	3.72	*	ug/L	10	70
Pyrene	129-00-0		U	3.72	*	ug/L	7	40
Surrogate Recoveries	CAS	% Recovery		Dilution	XQ	Units	LCL	UCL
2,4,6-Tribromophenol	118-79-6	89.2		3.72	*	%	40	125
2-Fluorobiphenyl	321-60-8	92.3		3.72	*	%	50	110
2-Fluorophenol	367-12-4	56.8		3.72	*	%	54	100
Nitrobenzene-d5	4165-60-0	88.6		3.72	*	%	40	110
Phenol-d6	13127-88-3	76.9		3.72	*	%	47	113
Terphenyl-d14	1718-51-0	50.2		3.72	*	%	50	135

Arizona license number: AZ0102

Organic Reference

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Report Heade	Explanations
Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
LCL	Lower Control Limit
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #4)
	Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
UCL	Upper Control Limit
Sample	Value of the Sample of interest

pes		
Surrogate	LFM	Laboratory Fortified Matrix
Internal Standard	LFMD	Laboratory Fortified Matrix Duplicate
Sample Duplicate	LRB	Laboratory Reagent Blank
Laboratory Control Sample - Soil	MS/MSD	Matrix Spike/Matrix Spike Duplicate
Laboratory Control Sample - Water	PBS	Prep Blank - Soil
Laboratory Fortified Blank	PBW	Prep Blank - Water
	Surrogate Internal Standard Sample Duplicate Laboratory Control Sample - Soil Laboratory Control Sample - Water	Surrogate         LFM           Internal Standard         LFMD           Sample Duplicate         LRB           Laboratory Control Sample - Soil         MS/MSD           Laboratory Control Sample - Water         PBS

CONTRACTOR OF THE PARTY OF THE			
QC Sampl	Police and Property	Carried Street	of Hodgedon
STAMP 1: [11] 0]	(4) III V (5) (4)	H = 한 시 4 1 1 1 1 1 1	STATESTAN

Blanks Verifies that there is no or minimal contamination in the prep method or calibration procedure.

Verifies the accuracy of the method, including the prep procedure. Control Samples

**Duplicates** Verifies the precision of the instrument and/or method. Spikes/Fortified Matrix Determines sample matrix interferences, if any.

В Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity. 0 Analyte concentration is estimated due to result exceeding calibration range. Н Analysis exceeded method hold time. pH is a field test with an immediate hold time. J Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity. L Target analyte response was below the laboratory defined negative threshold.

The material was analyzed for, but was not detected above the level of the associated value.

The associated value is either the sample quantitation limit or the sample detection limit.

#### Method Reference

IJ

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2)EPA 600/4-90/020. Methods for the Determination of Organic Compounds in Drinking Water (I), July 1990.
- EPA 600/R-92/129. Methods for the Determination of Organic Compounds in Drinking Water (II), July 1990. (3)
- EPA SW-846. Test Methods for Evaluating Solid Waste. (4)
- Standard Methods for the Examination of Water and Wastewater. (5)

#### Comments

- QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations. (1)
- Excluding Oil & Grease, solid & biological matrices for organic analyses are reported on a wet weight basis. (2)
- (3) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier

associated with the result.

(4) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:

http://www.acz.com/public/extquallist.pdf

ACZ Project ID: L38418

# **Base Neutral Acid Extractables by GC/MS**

M8270C GC/MS

#### WG427395

MS	Sample ID:	L38390-01MS		PCN/SCN: OPBNA170523-1			Analy	zed:	ed: 07/21/17 15		
Compound		QC	Sample	Found	Units	Rec	Lower	Upper	RPD I	Limit	Qual
1,2,4-TRICHLOROB	ENZENE	50013	U	25	ug/L	53.0	35	105			
1,4-DICHLOROBEN	ZENE	50013	U	28.6	ug/L	61.0	30	100			
2,4-DINITROTOLUE	NE	50013	U	34.9	ug/L	74.0	50	120			
2-CHLOROPHENOL		75080	U	50.1	ug/L	71.0	35	105			
4-CHLORO-3-METH	YLPHENOL	75040	U	61.1	ug/L	86.0	45	110			
4-NITROPHENOL		75120	U	67	ug/L	95.0	0	125			
ACENAPHTHENE		50007	U	24.5	ug/L	52.0	45	110			
N-NITROSODI-N-PR	OPYLAMINE	50027	U	35.7	ug/L	76.0	35	130			
PENTACHLOROPH	ENOL	75040	U	31	ug/L	44.0	40	115			
PHENOL		75060	U	52.7	ug/L	74.0	0	115			
PYRENE		50003	U	U	ug/L	0.0	50	130			M2
2,4,6-TRIBROMOPH	ENOL (surr)				%	77.9	40	125			
2-FLUOROBIPHENY	'L (surr)				%	61.0	50	110			
2-FLUOROPHENOL	(surr)				%	71.0	54	100			
NITROBENZENE-D	(surr)				%	79.2	40	110			
PHENOL-D6 (surr)					%	83.8	47	113			
TERPHENYL-D14 (s	urr)				%	10.1	50	135			S6

DUP	Sample ID:	L38391-01DUP						Analy	Analyzed:		/17 16:57
Compound		QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
1,2,4-TRICHLOROBENZEN	E		U	U	ug/L				0	20	RA
1,2-DICHLOROBENZENE			U	U	ug/L				0	20	RA
1,3-DICHLOROBENZENE			U	U	ug/L				0	20	RA
1,4-DICHLOROBENZENE			U	4	ug/L				200	20	RA
1,4-DIOXANE			12	12.4	ug/L				3	20	RA
2,4,5-TRICHLOROPHENOL			U	U	ug/L				0	20	RA
2,4,6-TRICHLOROPHENOL			U	U	ug/L				0	20	RA
2,4-DICHLOROPHENOL			U	U	ug/L				0	20	RA
2,4-DIMETHYLPHENOL			U	U	ug/L				0	20	RA
2,4-DINITROPHENOL			U	U	ug/L				0	20	RA
2,4-DINITROTOLUENE			U	U	ug/L				0	20	RA
2,6-DINITROTOLUENE			U	U	ug/L				0	20	RA
2-CHLORONAPHTHALENE			U	U	ug/L				0	20	RA
2-CHLOROPHENOL			U	U	ug/L				0	20	RA
2-METHYLNAPHTHALENE			U	U	ug/L				0	20	RA
2-METHYLPHENOL			U	U	ug/L				0	20	RA
2-NITROANILINE			U	U	ug/L				0	20	RA
2-NITROPHENOL			U	U	ug/L				0	20	RA
3- & 4-METHYLPHENOL			U	U	ug/L				0	20	RA
3,3-DICHLOROBENZIDINE			U	U	ug/L				0	20	RA
3-NITROANILINE			U	U	ug/L				0	20	RA
4,6-DINITRO-2-METHYLPH	ENOL		U	U	ug/L				0	20	RA
4-BROMOPHENYL PHENY	L ETHER		U	U	ug/L				0	20	RA
4-CHLORO-3-METHYLPHE	NOL		U	U	ug/L				0	20	RA

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4-CHLOROANILINE	U	U	ug/L				0	20	
4-CHLOROPHENYL PHENYL ETHER	U	U	ug/L				0	20	
4-NITROANILINE	υ	U	ug/L				0	20	
4-NITROPHENOL	U	U	ug/L				0	20	
ACENAPHTHENE	U	U	ug/L				0	20	
ACENAPHTHYLENE	U	U	ug/L				0	20	
ANILINE	U	U	ug/L				0	20	
ANTHRACENE	U	U	ug/L				0	20	
AZOBENZENE	U	U	ug/L				0	20	
BENZIDINE	U	U	ug/L				0	20	
BENZO(A)ANTHRACENE	U	U	ug/L				0	20	
BENZO(A)PYRENE	U	U	ug/L				0	20	
BENZO(B)FLUORANTHENE	U	U	ug/L				0	20	
BENZO(G,H,I)PERYLENE	U	U	ug/L				0	20	
BENZO(K)FLUORANTHENE	U	U	ug/L				0	20	
BENZOIC ACID	U	U	ug/L				0	20	
BENZYL ALCOHOL	U	U	ug/L				0	20	
BIS(2-CHLOROETHOXY)METHANE	U	U	ug/L				0	20	
BIS(2-CHLOROETHYL) ETHER	U	U	ug/L				0	20	
BIS(2-CHLOROISOPROPYL) ETHER	U	U	ug/L				0	20	
BIS(2-ETHYLHEXYL) PHTHALATE	U	U	ug/L				0	20	
BUTYL BENZYL PHTHALATE	U	U	ug/L				0	20	
CHRYSENE	U	U	ug/L				0	20	
DIBENZO(A,H)ANTHRACENE	U	U	ug/L				0	20	
DIBENZOFURAN	U	U	ug/L				0	20	
DIETHYLPHTHALATE	U	U	ug/L				0	20	
DIMETHYL PHTHALATE	U	U	ug/L				0	20	
DI-N-BUTYL PHTHALATE	U	U	ug/L				0	20	
DI-N-OCTYL PHTHALATE	U	U	ug/L				0	20	
FLUORANTHENE	U	U	ug/L				0	20	
FLUORENE	U	U	ug/L				0	20	
HEXACHLOROBENZENE	U	U	ug/L				0	20	
HEXACHLOROBUTADIENE	Ü	U	ug/L				0	20	
HEXACHLOROCYCLOPENTADIENE	U	U	ug/L				0	20	
HEXACHLOROETHANE	U	U	ug/L				0	20	
INDENO(1,2,3-CD)PYRENE	U	U	ug/L				0	20	
ISOPHORONE	U	U	ug/L				0	20	
NAPHTHALENE	U	U	ug/L				0	20	
NITROBENZENE	U	U	ug/L				0	20	
N-NITROSODIMETHYLAMINE	U	U	ug/L				0	20	
N-NITROSODI-N-PROPYLAMINE	U	U	ug/L				0	20	
N-NITROSODIPHENYLAMINE	U	U	ug/L				0	20	
PENTACHLOROPHENOL	υ	U	ug/L				0	20	
PHENANTHRENE	U	U	ug/L				0	20	
PHENOL	U	U	ug/L				0	20	
PYRENE	U	U	ug/L				0	20	
2,4,6-TRIBROMOPHENOL (surr)			%	94.5	40	125			
2-FLUOROBIPHENYL (surr)			%	76.0	50	110			
2-FLUOROPHENOL (surr)			%	71.5	54	100			

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N	ITROBENZENE-D5 (surr)	%	77.3	40	110	
F	HENOL-D6 (surr)	%	83.6	47	113	
Т	ERPHENYL-D14 (surr)	%	20.4	50	135	S6

LCSW Sample	ID: WG426931LCSW		PCN/S	CN: OPBI	NA170523	3-1	Analy	yzed:	07/21	/17 14:10
Compound	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
1,2,4-TRICHLOROBENZENE	50013		33.2	ug/L	66.0	35	105			200
1,4-DICHLOROBENZENE	50013		31.7	ug/L	63.0	30	100			
2,4-DINITROTOLUENE	50013		43.3	ug/L	87.0	50	120			
2-CHLOROPHENOL	75080		53.5	ug/L	71.0	35	105			
4-CHLORO-3-METHYLPHENOL	75040		58.4	ug/L	78.0	45	110			
4-NITROPHENOL	75120		59	ug/L	79.0	0	125			
ACENAPHTHENE	50007		38	ug/L	76.0	45	110			
N-NITROSODI-N-PROPYLAMINE	50027		38.4	ug/L	77.0	35	130			
PENTACHLOROPHENOL	75040		55	ug/L	73.0	40	115			
PHENOL	75060		53.4	ug/L	71.0	0	115			
PYRENE	50003		41.7	ug/L	83.0	50	130			
2,4,6-TRIBROMOPHENOL (surr)				%	90.8	40	125			
2-FLUOROBIPHENYL (surr)				%	79.8	50	110			
2-FLUOROPHENOL (surr)				%	72.8	54	100			
NITROBENZENE-D5 (surr)				%	82.1	40	110			
PHENOL-D6 (surr)				%	80.5	47	113			
TERPHENYL-D14 (surr)				%	95.3	50	135			

LCSWD	CSWD Sample ID: WG426931LCSWD			PCN/SCN: OPBNA170523-1					yzed:	07/21/17 14:44	
Compound	BLATTE STATE	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
1,2,4-TRICHLOROBENZEN	E	50013		35.1	ug/L	70.0	35	105	6	20	
1,4-DICHLOROBENZENE		50013		34.5	ug/L	69.0	30	100	8	20	
2,4-DINITROTOLUENE		50013		44.1	ug/L	88.0	50	120	2	20	
2-CHLOROPHENOL		75080		56.5	ug/L	75.0	35	105	5	20	
4-CHLORO-3-METHYLPHE	NOL	75040		60	ug/L	0.08	45	110	3	20	
4-NITROPHENOL		75120		58	ug/L	77.0	0	125	2	20	
ACENAPHTHENE		50007		40.4	ug/L	81.0	45	110	6	20	
N-NITROSODI-N-PROPYLA	MINE	50027		40.6	ug/L	81.0	35	130	6	20	
PENTACHLOROPHENOL		75040		56	ug/L	75.0	40	115	2	20	
PHENOL		75060		54.6	ug/L	73.0	0	115	2	20	
PYRENE		50003		42.6	ug/L	85.0	50	130	2	20	
2,4,6-TRIBROMOPHENOL	(surr)				%	88.8	40	125			
2-FLUOROBIPHENYL (surr)	)				%	80.6	50	110			
2-FLUOROPHENOL (surr)					%	71.6	54	100			
NITROBENZENE-D5 (surr)					%	82.5	40	110			
PHENOL-D6 (surr)					%	77.1	47	113			
TERPHENYL-D14 (surr)					%	93.7	50	135			

PBW	Sample ID: WG426931PBW							Analyzed:		07/21/17 13:37	
Compound	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual	
1,2,4-TRICHLOROBENZEN	E		U	ug/L		-10	10				
1,2-DICHLOROBENZENE			U	ug/L		-10	10				
1,3-DICHLOROBENZENE			U	ug/L		-10	10				

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			AOZ I TOJECTID	
			· · · · · · · · · · · · · · · · · · ·	
1,4-DICHLOROBENZENE	U	ug/L	-10	10
1,4-DIOXANE	U	ug/L	-10	10
2,4,5-TRICHLOROPHENOL	U	ug/L	-50	50
2,4,6-TRICHLOROPHENOL	U	ug/L	-10	10
2,4-DICHLOROPHENOL	U	ug/L	-10	10
2,4-DIMETHYLPHENOL	U	ug/L	-20	20
2,4-DINITROPHENOL	U	ug/L	-50	50
2,4-DINITROTOLUENE	U	ug/L	-10	10
2,6-DINITROTOLUENE	U	ug/L	-50	50
2-CHLORONAPHTHALENE	U	ug/L	-10	10
2-CHLOROPHENOL	U	ug/L	-10	10
2-METHYLNAPHTHALENE	U	ug/L	-10	10
2-METHYLPHENOL	U	ug/L	-10	10
2-NITROANILINE	U	ug/L	-50	50
2-NITROPHENOL	U	ug/L	-20	20
3- & 4-METHYLPHENOL	U	ug/L	-20	20
3,3-DICHLOROBENZIDINE	U	ug/L	-50	50
3-NITROANILINE	U	ug/L	-50	50
4.6-DINITRO-2-METHYLPHENOL	Ü	ug/L	-50	50
4-BROMOPHENYL PHENYL ETHER	U	ug/L	-10	10
4-CHLORO-3-METHYLPHENOL	U	ug/L	-10	10
	U		-10	
4-CHLOROANILINE		ug/L		10
4-CHLOROPHENYL PHENYL ETHER	U	ug/L	-10	10
4-NITROANILINE	U	ug/L	-50	50
4-NITROPHENOL	U	ug/L	-50	50
ACENAPHTHENE	U 	ug/L	-10	10
ACENAPHTHYLENE	U	ug/L	-10	10
ANILINE	U	ug/L	-50	50
ANTHRACENE	U	ug/L	-10	10
AZOBENZENE	U	ug/L	-50	50
BENZIDINE	U	ug/L	-20	20
BENZO(A)ANTHRACENE	U	ug/L	-10	10
BENZO(A)PYRENE	U	ug/L	-10	10
BENZO(B)FLUORANTHENE	U	ug/L	-10	10
BENZO(G,H,I)PERYLENE	U	ug/L	-10	10
BENZO(K)FLUORANTHENE	U	ug/L	-10	10
BENZOIC ACID	U	ug/L	-50	50
BENZYL ALCOHOL	U	ug/L	-10	10
BIS(2-CHLOROETHOXY)METHANE	U	ug/L	-10	10
BIS(2-CHLOROETHYL) ETHER	U	ug/L	-10	10
BIS(2-CHLOROISOPROPYL) ETHER	U	ug/L	-10	10
BIS(2-ETHYLHEXYL) PHTHALATE	U	ug/L	-20	20
BUTYL BENZYL PHTHALATE	U	ug/L	-10	10
CHRYSENE	U	ug/L	-10	10
DIBENZO(A,H)ANTHRACENE	U	ug/L	-10	10
DIBENZOFURAN	U	ug/L	-10	10
DIETHYLPHTHALATE	U	ug/L	-10	10
DIMETHYL PHTHALATE	U	ug/L	-10	10
DI-N-BUTYL PHTHALATE	U	ug/L	-10	10

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ACZ Project ID: L38418

DI-N-OCTYL PHTHALATE	U	ug/L		-10	10
FLUORANTHENE	U	ug/L		-10	10
FLUORENE	Ü	ug/L		-10	10
HEXACHLOROBENZENE	Ü	ug/L		-10	10
HEXACHLOROBUTADIENE	Ü	ug/L		-10	10
HEXACHLOROCYCLOPENTADIENE	Ü	ug/L		-20	20
HEXACHLOROETHANE	U	ug/L		-10	10
INDENO(1,2,3-CD)PYRENE	U	ug/L		-10	10
ISOPHORONE	Ü	ug/L		-10	10
NAPHTHALENE	U	ug/L		-10	10
NITROBENZENE	U	ug/L		-10	10
N-NITROSODIMETHYLAMINE	U	ug/L		-50	50
N-NITROSODI-N-PROPYLAMINE	U	ug/L		-10	10
N-NITROSODIPHENYLAMINE	U	-		-10	10
	U	ug/L		-10 -50	50
PENTACHLOROPHENOL		ug/L			
PHENANTHRENE	U	ug/L		-10	10
PHENOL	U	ug/L		-20	20
PYRENE	U	ug/L		-10	10
2,4,6-TRIBROMOPHENOL (surr)		%	77.4	40	125
2-FLUOROBIPHENYL (surr)		%	74.9	50	110
2-FLUOROPHENOL (surr)		%	71.1	54	100
NITROBENZENE-D5 (surr)		%	77.2	40	110
PHENOL-D6 (surr)		%	77.3	47	113
TERPHENYL-D14 (surr)		%	91.2	50	135

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# Organic Extended Qualifier Report

ACZ Project ID: L38418

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L38418-01	WG427395	*All Compounds*	M8270C GC/MS	D1	Sample required dilution due to matrix.
			M8270C GC/MS	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Pyrene	M8270C GC/MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.

Certification Qualifiers

**Stewart Environmental Consultants, Inc.** 

ACZ Project ID: L38418

GC/MS

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

1,4-Dioxane

M8270C GC/MS



# Sample Receipt

Stewart	Environment	tal Consultants,	Inc.

ACZ Project ID:

L38418

Date Received: 07/13/2017 10:20

Received By:

Date Printed:

7/13/2017

				Date Pr	inted:	//	13/2017
Receipt Verification		737 July			75	THE	3280
					YES	NO	NA
1) Is a foreign soil permit	included for applic	cable samples?					X
2) Is the Chain of Custody	Х						
3) Does this project require	e special handling	g procedures such	as CLP protocol	?			Х
4) Are any samples NRC	licensable materia	al?					Х
5) If samples are received	I past hold time, p	proceed with reques	sted short hold ti	me analyses?	Х		
6) Is the Chain of Custody	/ form complete a	nd accurate?			Х		
7) Were any changes ma	de to the Chain of	Custody form prio	r to ACZ receivir	ng the samples?	X		113000
		Analyses Reque on prior to AC		and Total			
Samples/Containers	98 3 3 10 1		PERCHED IN	STATE OF THE STATE OF	CHARLE	39955	1
					YES	NO	NA
8) Are all containers intac	t and with no leak	s?			Х		N A
9) Are all labels on contai	ners and are they	intact and legible?			Х		4-1-1
10) Do the sample labels	and Chain of Cus	tody form match fo	r Sample ID, Da	te, and Time?	Х		
11) For preserved bottle t	ypes, was the pH	checked and within	n limits? 1			X	
	d to the sub-	617 (YELLOW GL sample to adju					
12) Is there sufficient sam	ple volume to per	form all requested	work?		Х		
13) Is the custody seal int	act on all containe	ers?					Х
14) Are samples that requ	iire zero headspa	ce acceptable?					Х
15) Are all sample contain	ners appropriate fo	or analytical require	ements?			Х	1
	A Yellow Glass eated from the	s container no e Amber .	t received a	nd a new			
16) Is there an Hg-1631 tr	ip blank present?						Х
17) Is there a VOA trip bla	ank present?						Х
18) Were all samples rece	eived within hold t	ime?			Х		
Chain of Custody Related	d Remarks	THE PARTY OF THE P	9 49 1957		2-71-21		F 19 18
Client Contact Remarks	3012	A STATE OF LIVE	- THE PARTY	10 8 / B		No.	100
Shipping Containers	FIGURE TO THE		1000	The Ersty	CENTER OF	SUC TE	17 18 18
Cooler	Id Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?			
4003	1.2	<=6.0	13	Yes			



# Sample Receipt

Stewart Environmental Consultants, Inc.

ACZ Project ID: L38418

Date Received: 07/13/2017 10:20

Received By:

Date Printed: 7/13/2017

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

**REPAD LPII 2012-03** 



L 39 418

Telephone: (970) 226-5500

Facsimile: (

PAGE \_\_\_ OF \_\_

	CLIENT:	d.	S	tratus	Compa	nies - AC	Z.			Name:	aues Stewart
Sample No.	SAMPLE	COLLECTIO	N INFO	CLIENT	SAMPLE IDEI	NTIFICATION	Matrix	QC	Total No.	Signature:	4-0/
	Date		Grab / Comp		, T	THE ION TON	Type	Neede	of Cont.		ANALYSES REQUESTED
	7.12.17	12:40	GI	M	W- 15		とと		9	Method 8	270 (see back of COC) - ACZ
										Total Org	anic Carbon - ACZ
									1		
							-				
Compliance Leaving thi	samples may	require you t	report the te	mperature emperatu	of samples as	thèy armve in th	e labora		uld you like		ure of samples recorded upon receipt by the
RELINQUIS			Received by	On.	Date / Time	REQUESTE	D.EQMP	LETION	PANEAS.	REPORT TO:	PHONE:
0 "	4. /	C 30	10-	45	1630					CLIENT:	FAX:
Relinquished	i by		Received by		Date / Time	3 . U. S California No.					
			AL		215.1			rinking v		ADDRESS:	ID-
Relinquished	by .	Date / Time	Received by		Date / Time	e Sa(s	oij .	SL:	= sludge = Solid -	INVOICE TO:	
HARRIS STATE						SEVE ON SE	1			ADDRESS:	
						Sampl	e Kit Sei	it? Yes	// No	CITY, STATE Z	IP:



August 04, 2017

Report to:

Trevor Mueller

Stewart Environmental Consultants, Inc.

2600 Canton Ct.

Unit C

Fort Collins, CO 80525

cc: Trevor Mueller

Bill to:

Accounts Payable

Stewart Environmental Consultants, Inc.

2600 Canton Ct.

Unit C

Fort Collins, CO 80525

Project ID:

ACZ Project ID: L38586

Trevor Mueller:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on July 20, 2017. This project has been assigned to ACZ's project number, L38586. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L38586. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after September 03, 2017. If the samples are determined to be hazardous, additional charges apply for disposal (typically \$11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

re grallen





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Inorganic Analytical Results

Stewart Environmental Consultants, Inc.

Project ID:

Sample ID:

MW-15

ACZ Sample ID: L38586-01

Date Sampled: 07/17/17 13:00

Date Received: 07/20/17

Sample Matrix: Waste Water

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Carbon, total organic	SM5310B	1	151		*	mg/L	1	5	08/01/17 11:00	) bce
(TOC)										

Arizona license number: AZ0102



2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Report Header	Explanations
Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5).
	Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest
QC Sample Typ	oes

QC Sample T	ypes		
AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	LFM	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	LFMD	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	LRB	Laboratory Reagent Blank
ICB	Initial Calibration Blank	MS	Matrix Spike
ICV	Initial Calibration Verification standard	MSD	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	PBS	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	PBW	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	PQV	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	SDL	Serial Dilution

Carried Street			
GIC Samo	le Tvi	No Fx	planations
ACTO CONTINUE	ULBERT A	and the second	pianianona

Blanks Verifies that there is no or minimal contamination in the prep method or calibration procedure.

Control Samples Verifies the accuracy of the method, including the prep procedure.

Duplicates Verifies the precision of the instrument and/or method.

Spikes/Fortified Matrix Determines sample matrix interferences, if any.

Standard Verifies the validity of the calibration.

#### ACZ Qualifiers (Qual)

- B Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
- H Analysis exceeded method hold time. pH is a field test with an immediate hold time.
- L Target analyte response was below the laboratory defined negative threshold.
- U The material was analyzed for, but was not detected above the level of the associated value.

The associated value is either the sample quantitation limit or the sample detection limit.

#### Method References

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples Supplement I, May 1994.
- (4) EPA SW-846. Test Methods for Evaluating Solid Waste.
- (5) Standard Methods for the Examination of Water and Wastewater.

#### Comments

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
- (4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
- (5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:

http://www.acz.com/public/extquallist.pdf

REP001.03.15.02

Inorganic Extended
Qualifier Report

Stewart Environmental Consultants, Inc.

ACZ Project ID: L38586

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L38586-01	NG427972	Carbon, total organic (TOC)	SM5310B	Q5	Sample received with inadequate chemical preservation.
					Additional preservation performed by the laboratory.

Certification Qualifiers

**Stewart Environmental Consultants, Inc.** 

ACZ Project ID: L38586

No certification qualifiers associated with this analysis

# Sample Receipt

Stewart	<b>Environm</b>	ental Co	neultan	ts Inc
OLCIVALL		Cilitai OU	Haullalı	LO. IIIV.

ACZ Project ID: L38586

Date Received: 07/20/2017 11:33

Received By:

Date Printed: 7/20/2017

Receipt Verification			WV 3
Is a foreign soil permit included for applicable samples?	YES	NO	NA
			^
2) Is the Chain of Custody form or other directive shipping papers present?	X		
Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			Х
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	
Samples/Containers		1403.4	430
	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		LUGI
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	Х		
11) For preserved bottle types, was the pH checked and within limits? 1		X	
L38586-01 Container B1864793 (YELLOW GLASS): Added 2 mls sulfuric acid to the sub-sample to adjust the pH to the appropriate range.			
12) Is there sufficient sample volume to perform all requested work?	Х		ST TON
13) Is the custody seal intact on all containers?			Х
14) Are samples that require zero headspace acceptable?			Х
15) Are all sample containers appropriate for analytical requirements?	Х		2721
16) Is there an Hg-1631 trip blank present?			Х
17) Is there a VOA trip blank present?		22.00	Х
18) Were all samples received within hold time?	Х		
Chain of Custody Related Remarks		E SA	101/4
Client Contact Remarks			
Shipping Containers	1 16 33	F 11 31	400
Cooler Id Temp(°C) Temp Rad(µR/Hr) Custody Seal Criteria(°C) Intact?			

Cooler Id	Temp(°C)	Temp	Rad(µR/Hr)	Custody Seal
		Criteria(°C)		Intact?
4413	0.3	<=6.0	15	N/A

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.



# Sample Receipt

Stewart Environmental Consultants, Inc.

ACZ Project ID:

L38586

Date Received: 07/20/2017 11:33

Received By: Date Printed:

7/20/2017

L38586-1708041333

The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).



CI L38586 Chain of Custody RECORD
CI L38586 Chain of Custody RECOR

L38586

Enen

STEWART ENVIRONMENTAL CONSULTANTS, INC. 3801 Automation Way, Suite 200, Fort Collins, CO 80525

Telephone: (970) 226-5500

Facsimile: (

PAGE \_\_\_ OF \_\_\_

30 LE (1) 6 3 1 1 1 2 3	CLIENT:	ENT: Stratus Companies - ACZ					Name: LAMES STELLIA			
Sample No.	SAMPLE	COLLECTIO	N INFO				Madain	QC Report	Total No. of	Signature:
32	Date	Time	Grab / Comp	CLIENT SA	MPLE IDENT	TIFICATION	Matrix Type	Needed	Cont.	ANALYSES REQUESTED
										Phenels-
	7.17.17	13:00		MW-	15		NN			Total Organic Carbon
										Method 8270 (all normal compounds, including those below)
										Benzy Butyl Phthalate
					(197)					Bis(2-ethylhexyl) phthalate
										Di-n-butyl Phthalate
										Diethyl Phthalate
										Dimethyl Phthalete
										Di-n-octyl Phthalate
										1,4-Djoxane
										Benzoic Acid
										Bencyl alcohol
										2-Methylphenol
Compliance	samples may	require you t	o report the te	mperature of	samples as the	ey arrive in th	e laborator	y. Would yo	ou like the tem	perature of samples recorded upon receip(by the
Leaving this	s field blank i	mplies that ti	he incoming t	emperature i	s not request	ted.				
RELINQUIS		DATE/TIME	Received by		Date / Time	REQUESTE	D COMPLE	TION DATE		REPORT TO: PHONE:
1		34:30	77	Tholi	11112					FAX:
Relinquished	l hu		Received by	11417	/ピラご Date / Time	*************	MATE	Y TVDE		CLIENT:
Reinquisneu	) j	Date / Time	Received by		Date / Time	· ·	MATR WW = wa	X TYPE		ADDRESS:
ar71	19/17	1630	Jes ;	7/20/17	133	`	DW = drin	kina water		
Relinguished	bv		Received by	, ,,	Date / Time	L = Liquid			CITY, STATE ZIP:	
	,	Date: Third	,		D4407 711	. A =	Air	SD:	= Solid	INVOICE TO:
								ORT REQUIR		ADDRESS:
Dajabase En	GY EX					PWSID#	<u> </u>	. :		
						Sa	mple Kit S	ent? Yes /	No · ·	CITY, STATE ZIP:

August 04, 2017

Report to:

**Trevor Mueller** 

Stewart Environmental Consultants, Inc.

2600 Canton Ct.

Unit C

Fort Collins, CO 80525

cc: Trevor Mueller

Project ID:

ACZ Project ID: L38419

Trevor Mueller:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on July 13, 2017. This project has been assigned to ACZ's project number, L38419. Please reference this number in all future inquiries.

Bill to:

Unit C

Accounts Payable

2600 Canton Ct.

Fort Collins, CO 80525

Stewart Environmental Consultants, Inc.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L38419. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after September 03, 2017. If the samples are determined to be hazardous, additional charges apply for disposal (typically \$11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.





L38419-1708041321 Page 1 of 18



Inorganic Analytical Results

Stewart Environmental Consultants, Inc.

Project ID:

Sample ID: MW-16

ACZ Sample ID: L38419-01

Date Sampled: 07/12/17 13:40

Date Received: 07/13/17

Sample Matrix: Waste Water

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Carbon, total organic	SM5310B	20		U	*	mg/L	20	100	08/01/17 11:00	) bce

(TOC)

Arizona license number: AZ0102

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Reference

Report		

Batch A distinct set of samples analyzed at a specific time

Found Value of the QC Type of interest Limit Upper limit for RPD, in %.

Lower Lower Recovery Limit, in % (except for LCSS, mg/Kg)

MDL Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5).

Allows for instrument and annual fluctuations.

PCN/SCN A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis

PQL Practical Quantitation Limit. Synonymous with the EPA term "minimum level".

QC True Value of the Control Sample or the amount added to the Spike

Rec Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)

RPD Relative Percent Difference, calculation used for Duplicate QC Types

Upper Upper Recovery Limit, in % (except for LCSS, mg/Kg)

Sample Value of the Sample of interest

felel	Sam	ple	Type	3
		APPRINT	CO. ALICENS	200

A STATE OF THE PARTY OF THE PAR			
AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	LFM	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	LFMD	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	LRB	Laboratory Reagent Blank
ICB	Initial Calibration Blank	MS	Matrix Spike
ICV	Initial Calibration Verification standard	MSD	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	PBS	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	PBW	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	PQV	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	SDL	Serial Dilution

#### QC Sample Type Explanations

Blanks Verifies that there is no or minimal contamination in the prep method or calibration procedure.

Control Samples Verifies the accuracy of the method, including the prep procedure.

Duplicates Verifies the precision of the instrument and/or method.

Spikes/Fortified Matrix Determines sample matrix interferences, if any.

Standard Verifies the validity of the calibration.

#### ACZ Qualifiers (Qual)

- B Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
- H Analysis exceeded method hold time. pH is a field test with an immediate hold time.
- L Target analyte response was below the laboratory defined negative threshold.
- U The material was analyzed for, but was not detected above the level of the associated value.

The associated value is either the sample quantitation limit or the sample detection limit.

#### Method References

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples Supplement I, May 1994.
- (4) EPA SW-846. Test Methods for Evaluating Solid Waste.
- (5) Standard Methods for the Examination of Water and Wastewater.

#### Comments

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
- (4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
- (5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:

http://www.acz.com/public/extquallist.pdf

REP001.03.15.02

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ACZ Project ID: L38419

Carbon, total o	Carbon, total organic (TOC)		SM5310B										
ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG427972													
WG427972ICV	ICV	08/01/17 11:00	WI170707-1	100		104	mg/L	104	90	110			
WG427972ICB	ICB	08/01/17 11:00				U	mg/L		-3	3			
WG427972LFB	LFB	08/01/17 11:00	WI170531-4	50		49.2	mg/L	98	90	110			
L38390-01DUP	DUP	08/01/17 11:00			87.3	91.6	mg/L				5	20	R/
L38391-01AS	AS	08/01/17 11:00	WI170531-4	1000	29.9	1020	mg/L	99	90	110			

L38419-1708041321 Page 4 of 18

# Inorganic Extended Qualifier Report

ACZ Project ID: L38419

#### Stewart Environmental Consultants, Inc.

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L38419-01	NG427972	Carbon, total organic (TOC)	SM5310B	DD	Sample required dilution due to matrix color or odor.
			SM5310B	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			SM5310B	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

L38419-1708041321 Page 5 of 18

Project ID:

Sample ID:

MW-16

ACZ Sample ID: L38419-01

Date Sampled: 07/12/17 13:40

Date Received: 07/13/17
Sample Matrix: Waste Water

## Base Neutral Acid Extractables by GC/MS

Analysis Method: M8270C GC/MS

Extract Method: M3520C

Workgroup: WG427395

Analyst: itm

Extract Date: 07/17/17 13:39 Analysis Date: 07/24/17 12:19

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
1,2,4-Trichlorobenzene	120-82-1		U	1.2	*	ug/L	2	10
1,2-Dichlorobenzene	95-50-1		U	1.2	*	ug/L	2	10
1,3-Dichlorobenzene	541-73-1		U	1.2	*	ug/L	2	10
1,4-Dichlorobenzene	106-46-7		U	1.2	*	ug/L	2	10
1,4-Dioxane	123-91-1	35		1.2	*	ug/L	2	10
2,4,5-Trichlorophenol	95-95-4		U	1.2	*	ug/L	10	60
2,4,6-Trichlorophenol	88-06-2		U	1.2	*	ug/L	2	10
2,4-Dichlorophenol	120-83-2		U	1.2	*	ug/L	2	10
2,4-Dimethylphenol	105-67-9		U	1.2	*	ug/L	5	20
2,4-Dinitrophenol	51-28-5		U	1.2	*	ug/L	20	60
2,4-Dinitrotoluene	121-14-2		U	1.2	*	ug/L	2	10
2,6-Dinitrotoluene	606-20-8		U	1.2	*	ug/L	10	60
2-Chloronaphthalene	91-58-7		U	1.2	*	ug/L	2	10
2-Chlorophenol	95-57-8		U	1.2	*	ug/L	2	10
2-Methylnaphthalene	91-57-6		U	1.2	*	ug/L	2	10
2-Methylphenol	95-48-7		U	1.2	*	ug/L	2	10
2-Nitroaniline	88-74-4		U	1.2	*	ug/L	10	60
2-Nitrophenol	88-75-5		U	1.2	*	ug/L	5	20
3- & 4-Methylphenol	1319-77-3		U	1.2	*	ug/L	5	20
3,3-Dichlorobenzidine	91-94-1		U	1.2	skr	ug/L	20	60
3-Nitroaniline	99-09-2		U	1.2	*	ug/L	10	60
4,6-Dinitro-2-methylphenol	534-52-1		U	1.2	*	ug/L	10	60
4-Bromophenyl phenyl ether	101-55-3		U	1.2	*	ug/L	2	10
4-Chloro-3-methylphenol	59-50-7		U	1.2	*	ug/L	2	10
4-Chloroaniline	106-47-8		U	1.2	*	ug/L	2	10
4-Chlorophenyl phenyl ether	7005-72-3		U	1.2	*	ug/L	2	10
4-Nitroaniline	100-01-6		U	1.2	*	ug/L	10	60
4-Nitrophenol	100-02-07		U	1.2	*	ug/L	10	60
Acenaphthene	83-32-9		U	1.2	*	ug/L	2	10
Acenaphthylene	208-96-8		U	1.2	*	ug/L	2	10
Aniline	62-53-3		U	1.2	*	ug/L	10	60
Anthracene	120-12-7		U	1.2	*	ug/L	2	10
Azobenzene	103-33-3		U	1.2	*	ug/L	10	60
Benzidine	92-87-5		U	1.2	*	ug/L	5	20
Benzo(a)anthracene	56-55-3		U	1.2	*	ug/L	2	10
Benzo(a)pyrene	50-32-8		U	1.2	*	ug/L	2	10
Benzo(b)fluoranthene	205-99-2		U	1.2	*	ug/L	2	10
Benzo(g,h,i)perylene	191-24-2	23		1.2	*	ug/L	2	10
Benzo(k)fluoranthene	207-08-9		U	1.2	*	ug/L	2	10
Benzoic Acid	65-85-0		U	1.2	*	ug/L	20	60
Benzyl alcohol	100-51-6		U	1.2	*	ug/L	2	10

<sup>\*</sup> Please refer to Qualifier Reports for details.

(800) 334-5493

Stewart Environmental Const Project ID: Sample ID: MW-16	ultants, Inc.		ACZ Sample ID: Date Sampled: Date Received: Sample Matrix:			. <b>38419</b> - 07/12/17 07/13/17 Waste V		
Bis(2-chloroethoxy)methane	111-91-1		U	1.2	*	ug/L	2	10
Bis(2-chloroethyl) ether	111-44-4		U	1.2	*	ug/L	2	10
Bis(2-chloroisopropyl) ether	108-60-1		U	1.2	*	ug/L	2	10
Bis(2-ethylhexyl) phthalate	117-81-7	6	J	1.2	*	ug/L	5	20
Butyl benzyl phthalate	85-68-7		U	1.2	*	ug/L	2	10
Chrysene	218-01-9		U	1.2	*	ug/L	2	10
Dibenzo(a,h)anthracene	53-70-3		U	1.2	*	ug/L	2	10
Dibenzofuran	132-64-9		U	1.2	*	ug/L	2	10
Diethylphthalate	84-66-2		U	1.2	*	ug/L	2	10
Dimethyl phthalate	131-11-3		U	1.2	*	ug/L	2	10
Di-n-butyl phthalate	84-74-2		U	1.2	*	ug/L	2	10
Di-n-octyl phthalate	117-84-0	5	J	1.2	*	ug/L	2	10
Fluoranthene	206-44-0		U	1.2	*	ug/L	2	10
Fluorene	86-73-7		U	1.2	*	ug/L	2	10
Hexachlorobenzene	118-74-1		U	1.2	*	ug/L	2	10
Hexachlorobutadiene	87-68-3		U	1.2	*	ug/L	2	10
Hexachlorocyclopentadiene	77-47-4		U	1.2	*	ug/L	5	20
Hexachloroethane	67-72-1		U	1.2	*	ug/L	2	10
Indeno(1,2,3-cd)pyrene	193-39-5	10		1.2	*	ug/L	2	10
Isophorone	78-59-1		U	1.2	*	ug/L	2	10
Naphthalene	91-20-3		U	1.2	*	ug/L	2	10
Nitrobenzene	98-95-3		U	1.2	*	ug/L	2	10
N-Nitrosodimethylamine	62-75-9		U	1.2	*	ug/L	10	60
N-Nitrosodi-n-propylamine	621-64-7		Ū	1.2	*	ug/L	2	10
N-Nitrosodiphenylamine	86-30-6		U	1.2	*	ug/L	2	10
Pentachlorophenol	87-86-5		U	1.2	*	ug/L	10	60
Phenanthrene	85-01-8		U	1.2	*	ug/L	2	10
Phenol	108-95-2		U	1.2	*	ug/L	5	20
Pyrene	129-00-0		U	1.2	*	ug/L	2	10
Surrogate Recoveries	CAS	% Recovery	Charles St.	Dilution	XQ	Units	LCL	UCL
2,4,6-Tribromophenol	118-79-6	101.4		1.2	*	%	40	125
2-Fluorobiphenyl	321-60-8	84.8		1.2	*	%	50	110
2-Fluorophenol	367-12-4	60.1		1.2	*	%	54	100
Nitrobenzene-d5	4165-60-0	76.2		1.2	*	%	40	110
								2.22

77.2

68.9

13127-88-3

1718-51-0

Arizona license number: AZ0102

Phenol-d6

Terphenyl-d14

47

50

113

135

1.2

Organic Reference

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Report Header				是 2000年,191						
Batch	•	s analyzed at a specific time								
Found	Value of the QC Type of	of interest								
Limit	Upper limit for RPD, in	%.								
Lower	Lower Recovery Limit,	in % (except for LCSS, mg/Kg)								
LCL	Lower Control Limit									
MDL	Method Detection Limit	. Same as Minimum Reporting L	imit unless omitted or eq	ual to the PQL (see comment #4)						
	Allows for instrument a	nd annual fluctuations.								
PCN/SCN	A number assigned to	reagents/standards to trace to the	manufacturer's certifica	te of analysis						
PQL	Practical Quantitation L	imit. Synonymous with the EPA	term "minimum level".							
QC	True Value of the Contr	rol Sample or the amount added t	to the Spike							
Rec	Amount of the true valu	e or spike added recovered, in %	(except for LCSS, mg/K	(g)						
RPD	Relative Percent Differen	ence, calculation used for Duplica	ite QC Types							
Upper	Upper Recovery Limit,	in % (except for LCSS, mg/Kg)								
UCL	Upper Control Limit									
Sample	Value of the Sample of	interest								
	1									
QC Sample Typ	pes		AND THE LOSS							
SURR	Surrogate		LFM	Laboratory Fortified Matrix						
INTS	Internal Standard		LFMD	Laboratory Fortified Matrix Duplicate						
DUP	Sample Duplicate		LRB	Laboratory Reagent Blank						
LCSS	Laboratory Control San	MS/MSD	Matrix Spike/Matrix Spike Duplicate							
LCSW	Laboratory Control San	nple - Water	PB\$	Prep Blank - Soil						
LFB	Laboratory Fortified Bla	nk	PBW	Prep Blank - Water						
OC Sample Tu	pe Explanations	CONTROL OF THE PARTY OF THE PAR	THE RESERVE OF THE PERSON NAMED IN	A CARLO DE LA CONTRA DEL CONTRA DE LA CONTRA DEL LA CONTRA DEL LA CONTRA DEL LA CONTRA DEL LA CONTRA DE LA CONTRA DE LA CONTRA DE LA CONTRA DEL LA CONTRA DE LA C						
Blanks	pe Explanations	Varifies that there is no or mini	mal contamination in the	prop method or collibration procedure						
	nnlon		ies that there is no or minimal contamination in the prep method or calibration procedure.  ies the accuracy of the method, including the prep procedure.							
Control San	npies			Nocedure.						
Duplicates	ter a same.	Verifies the precision of the ins								
Spikes/Fort	ined Matrix	Determines sample matrix inter	rerences, ir any.							
ACZ Qualifiers	(Qual)	The Control of the Co	STATE OF STA							
В	Analyte concentration of	letected at a value between MDL	and PQL. The associate	d value is an estimated quantity.						
0	Analyte concentration is	s estimated due to result exceedi	ng calibration range.							
Н	Analysis exceeded met	hod hold time. pH is a field test v	vith an immediate hold tir	ne.						
J	Analyte concentration of	letected at a value between MDL	and PQL. The associate	d value is an estimated quantity.						
L	Target analyte respons	e was below the laboratory define	ed negative threshold.							
U	The material was analy	zed for, but was not detected abo	ve the level of the assoc	iated value.						
	The associated value is	either the sample quantitation lin	nit or the sample detection	on limit.						
Method Refere	nces									
(1)	EPA 600/4-83-020. Me	ethods for Chemical Analysis of W	/ater and Wastes, March	. 1983.						
(2)	EPA 600/4-90/020. Me	thods for the Determination of O	rganic Compounds in Dri	nking Water (I), July 1990.						
(3)	EPA 600/R-92/129. Me	ethods for the Determination of O	rganic Compounds in Dri	nking Water (II), July 1990.						
(4)	EPA SW-846. Test Me	thods for Evaluating Solid Waste								
(5)	Standard Methods for t	he Examination of Water and Wa	stewater.							
		SPACE AND DESCRIPTION OF THE PARTY OF THE PA	VEHICLE IN CO.							
Comments	OO marks 1 1 1 1 1 1	The Paris	Enter Make	and the second of						
(1)	QC results calculated fr	om raw data. Results may vary s	signtly it the rounded valu	ies are used in the calculations.						

For a complete list of ACZ's Extended Qualifiers, please click:

associated with the result.

http://www.acz.com/public/extquallist.pdf

REP002.03.15.02

(3)

(4)

L38419-1708041321 Page 8 of 18

Excluding Oil & Grease, solid & biological matrices for organic analyses are reported on a wet weight basis.

An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier

If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

ACZ Project ID: L38419

## **Base Neutral Acid Extractables by GC/MS**

M8270C GC/MS

#### WG427395

MS	Sample ID:	L38390-01MS		PCN/S	Analyzed:		07/21/17 15:50				
Compound	The state of the same	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
1,2,4-TRICHLORO	BENZENE	50013	U	25	ug/L	53.0	35	105			
1,4-DICHLOROBE	NZENE	50013	U	28.6	ug/L	61.0	30	100			
2,4-DINITROTOLU	ENE	50013	U	34.9	ug/L	74.0	50	120			
2-CHLOROPHENO	L	75080	U	50.1	ug/L	71.0	35	105			
4-CHLORO-3-MET	HYLPHENOL	75040	U	61.1	ug/L	86.0	45	110			
4-NITROPHENOL		75120	U	67	ug/L	95.0	0	125			
ACENAPHTHENE		50007	U	24.5	ug/L	52.0	45	110			
N-NITROSODI-N-P	ROPYLAMINE	50027	U	35.7	ug/L	76.0	35	130			
PENTACHLOROPH	HENOL	75040	U	31	ug/L	44.0	40	115			
PHENOL		75060	U	52.7	ug/L	74.0	0	115			
PYRENE		50003	U	U	ug/L	0.0	50	130			M2
2,4,6-TRIBROMOP	HENOL (surr)				%	77.9	40	125			
2-FLUOROBIPHEN	YL (surr)				%	61.0	50	110			
2-FLUOROPHENO	L (surr)				%	71.0	54	100			
NITROBENZENE-D	95 (surr)				%	79.2	40	110			
PHENOL-D6 (surr)					%	83.8	47	113			
TERPHENYL-D14	surr)				%	10.1	50	135			S6

DUP	Sample ID: L38391-01D	UP					Analy	zed:	07/21	1/17 16:57
Compound	Control of the Contro	C Sam	ple Foun	d Units	Rec	Lower	Upper	RPD	Limit	Qual
1,2,4-TRICHLOROBENZE	NE	U	U	ug/L				0	20	RA
1,2-DICHLOROBENZENE		U	U	ug/L				0	20	RA
1,3-DICHLOROBENZENE		U	U	ug/L				0	20	RA
1,4-DICHLOROBENZENE		U	4	ug/L				200	20	RA
1,4-DIOXANE		12	12.4	ug/L				3	20	RA
2,4,5-TRICHLOROPHENO	DL	U	U	ug/L				0	20	RA
2,4,6-TRICHLOROPHENO	DL	U	U	ug/L				0	20	RA
2,4-DICHLOROPHENOL		U	U	ug/L				0	20	RA
2,4-DIMETHYLPHENOL		U	Ü	ug/L				0	20	RA
2,4-DINITROPHENOL		U	U	ug/L				0	20	RA
2,4-DINITROTOLUENE		U	Ü	ug/L				0	20	RA
2,6-DINITROTOLUENE		U	U	ug/L				0	20	RA
2-CHLORONAPHTHALEN	ŀΕ	U	U	ug/L				0	20	RA
2-CHLOROPHENOL		U	U	ug/L				0	20	RA
2-METHYLNAPHTHALEN	E	U	U	ug/L				0	20	RA
2-METHYLPHENOL		U	U	ug/L				0	20	RA
2-NITROANILINE		U	U	ug/L				0	20	RA
2-NITROPHENOL		U	U	ug/L				0	20	RA
3- & 4-METHYLPHENOL		U	U	ug/L				0	20	RA
3,3-DICHLOROBENZIDIN	E	U	U	ug/L				0	20	RA
3-NITROANILINE		U	U	ug/L				0	20	RA
4,6-DINITRO-2-METHYLP	HENOL	U	U	ug/L				0	20	RA
4-BROMOPHENYL PHEN	YL ETHER	U	U	ug/L				0	20	RA
4-CHLORO-3-METHYLPH	ENOL	U	U	ug/L				0	20	RA

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4-CHLOROANILINE	U	U	ug/L				0	20	
4-CHLOROPHENYL PHENYL ETHER	U	U	ug/L				0	20	
4-NITROANILINE	U	U	ug/L				0	20	
4-NITROPHENOL	U	U	ug/L				0	20	
ACENAPHTHENE	U	U	ug/L				0	20	
ACENAPHTHYLENE	U	U	ug/L				0	20	
ANILINE	U	U	ug/L				0	20	
ANTHRACENE	U	U	ug/L				0	20	
AZOBENZENE	U	U	ug/L				0	20	
BENZIDINE	U	U	ug/L				0	20	
BENZO(A)ANTHRACENE	U	U	ug/L				0	20	
BENZO(A)PYRENE	U	U	ug/L				0	20	
BENZO(B)FLUORANTHENE	U	U	ug/L				0	20	
BENZO(G,H,I)PERYLENE	U	U	ug/L				0	20	
BENZO(K)FLUORANTHENE	U	U	ug/L				0	20	
BENZOIC ACID	U	U	ug/L				0	20	
BENZYL ALCOHOL	U	U	ug/L				0	20	
BIS(2-CHLOROETHOXY)METHANE	U	U	ug/L				0	20	
BIS(2-CHLOROETHYL) ETHER	U	U	ug/L				0	20	
BIS(2-CHLOROISOPROPYL) ETHER	U	U	ug/L				0	20	
BIS(2-ETHYLHEXYL) PHTHALATE	U	U	ug/L				0	20	
BUTYL BENZYL PHTHALATE	U	U	ug/L				0	20	
CHRYSENE	U	U	ug/L				0	20	
DIBENZO(A,H)ANTHRACENE	U	U	ug/L				0	20	
DIBENZOFURAN	U	U	ug/L				0	20	
DIETHYLPHTHALATE	U	U	ug/L				0	20	
DIMETHYL PHTHALATE	U	U	ug/L				0	20	
DI-N-BUTYL PHTHALATE	U	U	ug/L				0	20	
DI-N-OCTYL PHTHALATE	U	U	ug/L				0	20	
FLUORANTHENE	U	U	ug/L				0	20	
FLUORENE	U	U	ug/L				0	20	
HEXACHLOROBENZENE	U	U	ug/L				0	20	
HEXACHLOROBUTADIENE	U	U	ug/L				0	20	
HEXACHLOROCYCLOPENTADIENE	U	U	ug/L				0	20	
HEXACHLOROETHANE	u	U	ug/L				0	20	
INDENO(1,2,3-CD)PYRENE	U	U	ug/L				0	20	
ISOPHORONE	U	U	ug/L				0	20	
NAPHTHALENE	U	U	ug/L				0	20	
NITROBENZENE	U	U	ug/L				0	20	
N-NITROSODIMETHYLAMINE	U	U	ug/L				0	20	
N-NITROSODI-N-PROPYLAMINE	U	U	ug/L				0	20	
N-NITROSODIPHENYLAMINE	U	U	ug/L				0	20	
PENTACHLOROPHENOL	U	U	ug/L				0	20	
PHENANTHRENE	U	U	ug/L				0	20	
PHENOL	U	U	ug/L				0	20	
PYRENE	U	U	ug/L				0	20	
2,4,6-TRIBROMOPHENOL (surr)			%	94.5	40	125			
2-FLUOROBIPHENYL (surr)			%	76.0	50	110			
2-FLUOROPHENOL (surr)			%	71.5	54	100			

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%	77.3	40	110	
%	83.6	47	113	
%	20.4	50	135	
	%	% 83.6	% 83.6 47	% 83.6 47 113

LCSW	Sample ID: WG426931LCS	W	PCN/S	CN: OPB	NA170523	3-1	Anal	yzed:	07/21	/17 14:10
Compound	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
1,2,4-TRICHLOROBENZENE	50013		33.2	ug/L	66.0	35	105			
1,4-DICHLOROBENZENE	50013		31.7	ug/L	63.0	30	100			
2,4-DINITROTOLUENE	50013		43.3	ug/L	87.0	50	120			
2-CHLOROPHENOL	75080		53.5	ug/L	71.0	35	105			
4-CHLORO-3-METHYLPHEN	OL 75040		58.4	ug/L	78.0	45	110			
4-NITROPHENOL	75120		59	ug/L	79.0	0	125			
ACENAPHTHENE	50007		38	ug/L	76.0	45	110			
N-NITROSODI-N-PROPYLAM	INE 50027		38.4	ug/L	77.0	35	130			
PENTACHLOROPHENOL	75040		55	ug/L	73.0	40	115			
PHENOL	75060		53.4	ug/L	71.0	0	115			
PYRENE	50003		41.7	ug/L	83.0	50	130			
2,4,6-TRIBROMOPHENOL (su	urr)			%	90.8	40	125			
2-FLUOROBIPHENYL (surr)				%	79.8	50	110			
2-FLUOROPHENOL (surr)				%	72.8	54	100			
NITROBENZENE-D5 (surr)				%	82.1	40	110			
PHENOL-D6 (surr)				%	80.5	47	113			
TERPHENYL-D14 (surr)				%	95.3	50	135			

LCSWD	SWD Sample ID: WG426931LCSWD		PCN/SC	Analyzed:		07/21/17 14:4					
Compound		QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
1,2,4-TRICHLOROBENZ	ENE	50013		35.1	ug/L	70.0	35	105	6	20	
1,4-DICHLOROBENZEN	E	50013		34.5	ug/L	69.0	30	100	8	20	
2,4-DINITROTOLUENE		50013		44.1	ug/L	88.0	50	120	2	20	
2-CHLOROPHENOL		75080		56.5	ug/L	75.0	35	105	5	20	
4-CHLORO-3-METHYLP	HENOL	75040		60	ug/L	80.0	45	110	3	20	
4-NITROPHENOL		75120		58	ug/L	77.0	0	125	2	20	
ACENAPHTHENE		50007		40.4	ug/L	81.0	45	110	6	20	
N-NITROSODI-N-PROP	YLAMINE	50027		40.6	ug/L	81.0	35	130	6	20	
PENTACHLOROPHENO	L	75040		56	ug/L	75.0	40	115	2	20	
PHENOL		75060		54.6	ug/L	73.0	0	115	2	20	
PYRENE		50003		42.6	ug/L	85.0	50	130	2	20	
2,4,6-TRIBROMOPHENO	DL (surr)				%	88.8	40	125			
2-FLUOROBIPHENYL (s	urr)				%	80.6	50	110			
2-FLUOROPHENOL (sur	T)				%	71.6	54	100			
NITROBENZENE-D5 (su	rr)				%	82.5	40	110			
PHENOL-D6 (surr)					%	77.1	47	113			
TERPHENYL-D14 (surr)					%	93.7	50	135			

PBW	Sample ID: WG426931PBW	Analyzed:		07/21/17 13:3						
Compound	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
1,2,4-TRICHLOROBENZENE			U	ug/L		-10	10			
1,2-DICHLOROBENZENE			U	ug/L		-10	10			
1,3-DICHLOROBENZENE			U	ug/L		-10	10			

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2.4,5-TRICHLOROPHENOL 2.4,6-TRICHLOROPHENOL 2.4,6-TRICHLOROPHENOL 3.4,6-TRICHLOROPHENOL 4.4-DIMETHYLPHENOL 3.4-DIMETHYLPHENOL 3.4-DIMETHYLPHENOL 3.4-DIMETROPHENOL 4.4-DIMETHYLPHENOL 3.4-DIMITROPHENOL 3.4-DIMITROPHENOL 3.4-DIMITROPHENOL 3.4-DIMITROPHENOL 3.4-DIMITROTOLUENE 3.5-DIMITROTOLUENE 3.5-DIMITROTOLUENE 3.5-DIMITROTOLUENE 3.5-DIMITROTOLUENE 3.5-DIMITROTOLUENE 3.5-DIMITROPHENOL 3.5-	
2.4,5-TRICHLOROPHENOL 2.4,6-DIRICHLOROPHENOL 2.4,6-DIRICHLOROPHENOL 2.4,6-DIRICHLOROPHENOL 2.4-DIMETHYLPHENOL 2.4-DIMETHYLPHENOL 2.4-DIMETHYLPHENOL 2.4-DIMETRYLPHENOL 2.4-DIMETRYLPHENOL 2.4-DIMETRYLPHENOL 2.4-DIMETROPHENOL 2.4-DIMETROTOLUENE 2.4-DIMETROLUENE 2.4-DIME	10
2.4,6-TRICHLOROPHENOL 2.4-DIALCHOROPHENOL 2.4-DIALCHOROPHENOL 2.4-DINTROPHENOL 2.4-DINTROPHENOL 2.4-DINTROPHENOL 2.4-DINTROPHENOL 2.4-DINTROPHENOL 2.4-DINTROTOLUENE 2.4-DINTROTOLUENE 2.4-DINTROTOLUENE 2.4-DINTROTOLUENE 2.5-DINTROTOLUENE 2.5-DINTROTOLUENE 2.5-DINTROTOLUENE 2.5-DINTROTOLUENE 2.5-DINTROTOLUENE 2.5-DINTROTOLUENE 2.5-DINTROTOLUENE 2.5-DINTROPHENOL 2	10
2.4-DICHLOROPHENOL 2.4-DINTROPHENOL 2.4-DINTROPHENOL 2.4-DINTROPHENOL 2.4-DINTROPHENOL 2.4-DINTROPHENOL 2.4-DINTROPHENOL 2.4-DINTROPOTOLUENE U Ug/L -50 2.4-DINTROTOLUENE U Ug/L -50 2.4-DINTROTOLUENE U Ug/L -50 2.4-DINTROTOLUENE U Ug/L -10 2.5-DINTROTOLUENE U Ug/L -10 2.5-DINTROPHENOL U Ug/L -10 2.4-DINTROPHENOL U Ug/L -10 2.4-DINTROPHENOL U Ug/L -10 2.4-DINTROPHENOL U Ug/L -10 2.4-DINTROPHENOL U Ug/L -20 3.5-DICHLOROPHENOL U Ug/L -20 3.5-DICHLOROPHENOL U Ug/L -20 3.5-DICHLOROPHENOL U Ug/L -20 3.5-DICHLOROPHENOL U Ug/L -20 4.5-DINTROPHENOL U Ug/L -50 4.6-DINTROPHENOL U Ug/L -10 4-DINTROPHENOL U Ug/L -50 4-DINTROPHENOL U Ug/	50
2.4-DIMETHYLPHENOL	10
2.4-DINITROPHENOL 2.4-DINITROPOLUENE 2.4-DINITROTOLUENE U ug/L -50 2.4-DINITROTOLUENE U ug/L -50 2.5-DINITROTOLUENE U ug/L -10 2.5-DINITROTOLUENE U ug/L -10 2.5-DINITROTOLUENE U ug/L -10 2.5-DINITROPHENOL U ug/L -10 2.5-METHYLNAPHTHALENE U ug/L -10 2.5-METHYLNAPHTHALENE U ug/L -10 2.5-METHYLPHENOL U ug/L -50 2.5-METHYLPHENOL U ug/L -50 3.5-DICHLOROBENZIDINE U ug/L -20 3.5-A 4-METHYLPHENOL U ug/L -50 3.5-A 4-METHYLPHENOL U ug/L -50 3.5-NITROANILINE U ug/L -50 3.5-NITROANILINE U ug/L -50 3.5-NITROANILINE U ug/L -50 4.5-DINITRO-2-METHYLPHENOL U ug/L -50 4.5-DINITRO-2-METHYLPHENOL U ug/L -10 4.5-DINITRO-2-METHYLPHENOL U ug/L -10 4.5-DINITRO-2-METHYLPHENOL U ug/L -10 4.5-DINITRO-3-METHYLPHENOL U ug/L -10 4.5-DIN	10
2.4-DINITROTOLUENE 2.5-DINITROTOLUENE 2.5-DINITROPHENOL 2.5-DINITROPHENOL 2.5-DINITROPHENOL 2.5-DINITROPHENOL 2.5-DINITROPHENOL 3.5-DINITROPHENOL 3	20
2.6-DINTROTOLUENE 2.6-CHLORONAPHTHALENE 2CHLORONAPHTHALENE 2CHLOROPHENOL U ug/L 2-METHYLAPHTHALENE U ug/L 2-METHYLPHENOL U ug/L 1-10 2-METHYLPHENOL U ug/L 1-10 2-METHYLPHENOL U ug/L 1-20 3.3-DICHLOROBENZIDINE U ug/L 1-50 3-NITROANILINE U ug/L 1-50 3-NITROANILINE U ug/L 1-50 4-BOMOPHENYL PHENYL ETHER U ug/L 1-10 4-CHLOROS-METHYLPHENOL U ug/L 1-10 4-CHLOROPHENYL PHENYL ETHER U ug/L 1-10 4-CENAPHTHENE U ug/L 1-10 4-CENAPHTH	50
2-CHLORONAPHTHALENE 2-CHLOROPHENOL 2-CHLOROPHENOL 3-CHLOROPHENOL 3-CHLOROPHENOL 3-METHYLINAPHTHALENE 3-METHYLINAPHTHALENE 3-METHYLINAPHTHALENE 3-METHYLINAPHTHALENE 3-METHYLINAPHTHALENE 3-METHYLINAPHTHALENE 3-METHYLINAPHTHALENE 3-METHYLINAPHTHALENE 3-METHYLINAPHENOL 3-S-BIGHLOROBENZIDINE 3-C-AMETHYLINAPHENOL 3-S-BIGHLOROBENZIDINE 3-NITROANILINE 3-NITROANILINE 3-METHYLINAPHENOL 3-S-BIGHLOROBENZIDINE 3-METHYLINAPHENOL 3-METHY	10
2-CHLOROPHENOL U Ug/L -10 2-METHYLNAPHTHALENE U Ug/L -10 2-METHYLPHENOL U Ug/L -10 2-METHYLPHENOL U Ug/L -50 2-NITROANILINE U Ug/L -50 2-NITROANILINE U Ug/L -20 3- & 4-METHYLPHENOL U Ug/L -20 3- & 4-METHYLPHENOL U Ug/L -50 3- & 4-METHYLPHENOL U Ug/L -50 3- & 1-METHYLPHENOL U Ug/L -50 3- & 1-METHYLPHENOL U Ug/L -50 4-SINTROANILINE U Ug/L -50 4-SINTROANILINE U Ug/L -50 4-SINTROANILINE U Ug/L -50 4-BROMOPHENYL PHENYL ETHER U Ug/L -10 4-CHLORO-3-METHYLPHENOL U Ug/L -10 4-CHLORO-3-METHYLPHENOL U Ug/L -10 4-CHLOROANILINE U Ug/L -10 4-CHLORONILINE U Ug/L -10 4-CHLOROANILINE U Ug/L -50 4-NITROANILINE U Ug/L -10 4-CENAPHTHENE U Ug/L -10 4-CENAPHTHYLENE U Ug/L -10 4-CENA	50
2-METHYLNAPHTHALENE 2-METHYLPHENOL U ug/L 2-MITROPHENOL U ug/L 2-O 2-MITROPHENOL U ug/L 2-O 3-3-A-METHYLPHENOL U ug/L 2-O 3-3-DICHLOROBENZIDINE U ug/L 2-O 3-3-DICHLOROBENZIDINE U ug/L 3-SO 3-A-METHYLPHENOL U ug/L 3-SO 3-A-METHYLPHENOL U ug/L 3-SO 4-BENDYLPHENYLETHER U ug/L 1-SO 4-CHLORO-3-METHYLPHENOL U ug/L 1-10 4-C	10
### PACE NOT CONTROL	10
2-NITROANILINE 2-NITROPHENOL 3-B.4-METHYLPHENOL 3.3-DICHLOROBENZIDINE 3.3-DICHLOROBENZIDINE 3.3-DICHLOROBENZIDINE 3.3-DICHLOROBENZIDINE 3.3-DICHLOROBENZIDINE 3.3-DICHLOROBENZIDINE 3.3-DICHLOROBENZIDINE 3.3-DICHLOROBENZIDINE 3.3-DICHLOROBENZIDINE 3.4-NITROANILINE 4.4-DINITRO-2-METHYLPHENOL 4.50 4-BROMOPHENYL PHENYL ETHER 4.50 4-BROMOPHENYL PHENYL ETHER 4.50 4-CHLORO-3-METHYLPHENOL 4.50 4-CHLORO-3-METHYLPHENOL 4.50 4-CHLOROBAILINE 4.50 4-CHLOROPHENYL PHENYL ETHER 4.50 4-CHLOROPHENYL PHENYL ETHER 4.50 4-NITROPHENOL 4.50 4-NILINE	10
2-NITROPHENOL 2-NITROPHENOL 3- & 4-METHYLPHENOL 4-CHLORO-SHETHYLPHENOL 4-CHLORO-S-METHYLPHENOL 4-CHLORO-S-METHYLENDL 4-CHLORO-S-METHYLEN	10
3- & 4-METHYLPHENOL   U ug/L   -50	50
3,3-DICHLOROBENZIDINE  3,3-DICHLOROBENZIDINE  3,4-DINITRO-2-METHYLPHENOL  4,6-DINITRO-2-METHYLPHENOL  4-CHLORO-3-METHYLPHENOL  4-CHLORO-3-METHYLPHENOL  4-CHLORO-3-METHYLPHENOL  4-CHLORO-3-METHYLPHENOL  4-CHLORO-3-METHYLPHENOL  4-CHLOROPHENYL PHENYL ETHER  U ug/L  -10  4-CHLOROPHENYL PHENYL ETHER  U ug/L  -10  4-NITROANILINE  U ug/L  -50  4-NITROPHENOL  4-OL ug/L  -10  4-OLENAPHTHYLENE  U ug/L  -10  4-OLENAPHTHYLENE  U ug/L  -10  4-NILINE  U ug/L  -50  4-NILINE  U ug/L  -10  4-NILINE  BENZO(A)ANTHRACENE  U ug/L  -10  BENZO(B)FLUORANTHENE  U ug/L  -10  BENZO(B,H,)PPERYLENE  U ug/L  -10  BENZO(G,H,)PERYLENE  U ug/L  -10  BENZO(G,H,)PERYLENE  U ug/L  -10  BENZO(G,H,DORANTHENE  U ug/L  -10  BENZO(C,FLUORANTHENE  U ug/L  -10  BENZO(C,FLUORANTHENE  U ug/L  -10  BENZO(C,FLUORANTHENE  U ug/L  -10  BENZO(C,FLUORANTHENE  U ug/L  -10  BENZO(C,CHLOROETHYL) ETHER  U ug/L  -10  BIS(2-CHLOROETHYL) ETHER  U ug/L  -10  BIS(2-CHLOROETHYL) ETHER  U ug/L  -10  DIETHYLPHTHALATE	20
3-NITROANILINE	20
### A CONTRO-2-METHYLPHENOL	50
### ### ### ### ### ### ### ### ### ##	50
### ### ### ### ### ### ### ### ### ##	50
A-CHLOROANILINE  4-CHLOROPHENYL PHENYL ETHER  4-CHLOROPHENYL PHENYL ETHER  4-CHLOROPHENYL PHENYL ETHER  4-CHLOROPHENYL PHENYL ETHER  4-NITROPHENOL  4-NITROPHENOL  4-NITROPHENOL  4-NITROPHENOL  4-CENAPHTHENE  4-OU ug/L  4-10  ACENAPHTHYLENE  4-OU ug/L  4-10  ANILINE  4-OU ug/L  4-10  ANILINE  4-OU ug/L  4-10  ANILINE  4-OU ug/L  4-10  BENZO(A)ANTHRACENE  4-OU ug/L  4-OU  BENZO(A)ANTHRACENE  4-OU ug/L  4-OU  BENZO(A)ANTHRACENE  4-OU ug/L  4-OU  BENZO(B)FLUORANTHENE  4-OU ug/L  4-OU  BENZO(G,H,I)PERYLENE  4-OU ug/L  4-OU  BENZO(G,FLUORANTHENE  4-OU ug/L  4-OU  BENZO(C,FLUORANTHENE  4-OU ug/L  4-OU  BENZO(C,FLUOROETHOXY)METHANE  4-OU ug/L  4-OU  BENZO(C,FLUOROETHOXY)METHANE  4-OU ug/L  4-OU  BENZO(C,FLUOROETHOXY)METHANE  4-OU ug/L  4-OU  BENZO(C,FLUOROETHOXY) ETHER  4-OU  4-	10
### CHLOROANILINE ####################################	10
### CHLOROPHENYL PHENYL ETHER ### CHLOROPHENYL PHENYL ETHER ### CHLOROPHENYL PHENYL ETHER #### CHLOROPHENYL PHENYL ETHER ###### CHLOROPHENYL PHENYL ETHER ##### CHLOROPHENYL PHENYL ETHER ####################################	10
######################################	10
### ### ### ### ### ### ### ### ### ##	50
ACENAPHTHENE  ACENAPHTHYLENE  ACENAPHTHYLENE  U ug/L -10  ANILINE  U ug/L -50  ANTHRACENE  U ug/L -10  AZOBENZENE  U ug/L -50  BENZIDINE  BENZO(A)ANTHRACENE  U ug/L -20  BENZO(A)ANTHRACENE  U ug/L -10  BENZO(B)FLUORANTHENE  BENZO(B)FLUORANTHENE  BENZO(G,H,I)PERYLENE  BENZO(K)FLUORANTHENE  U ug/L -10  BENZO(K)FLUORANTHENE  U ug/L -10  BENZO(K)FLUORANTHENE  U ug/L -10  BENZO(CACID  BENZO(CACID  BENZOLC ACID  U ug/L -10  BENZOLC ACID  BENZOLC ACID  BENZOLC ACID  BENZOLC ACID  BENZOLC ACID  U ug/L -10  BENZOLC ACID  BENZOLC ACID  BENZOLC ACID  BENZOLC ACID  BENZOLC ACID  U ug/L -10  BENZOLC ACID  BENZOLC ACID  BENZOLC ACID  BENZOLC ACID  BENZOLC ACID  U ug/L -10  BENZOLC ACID  BENZOL	50
ACENAPHTHYLENE  ACENAPHTHYLENE  U ug/L -50 ANTHRACENE  U ug/L -10 AZOBENZENE  U ug/L -50 BENZIDINE  BENZO(A)ANTHRACENE  U ug/L -20 BENZO(A)ANTHRACENE  U ug/L -10 BENZO(A)PYRENE  U ug/L -10 BENZO(B)FLUORANTHENE  BENZO(G,H,I)PERYLENE  BENZO(G,H,I)PERYLENE  U ug/L -10 BENZO(K)FLUORANTHENE  U ug/L -10 BENZO(K)FLUORANTHENE  U ug/L -10 BENZO(K)FLUORANTHENE  U ug/L -10 BENZO(CACID  U ug/L -10 BENZOLC ACID  U ug/L -10 BENZOLC	10
ANILINE ANTHRACENE ANTHRACENE AZOBENZENE U ug/L -50 BENZIDINE BENZO(A)ANTHRACENE U ug/L -20 BENZO(A)ANTHRACENE U ug/L -10 BENZO(A)PYRENE U ug/L -10 BENZO(B)FLUORANTHENE U ug/L -10 BENZO(G,H,I)PERYLENE U ug/L -10 BENZO(K)FLUORANTHENE U ug/L -10 BENZO(K)FLUORANTHENE U ug/L -10 BENZO(K)FLUORANTHENE U ug/L -10 BENZO(K)FLUORANTHENE U ug/L -10 BENZO(CACID U ug/L -10 BENZOLC ACID U ug/L -10 BEN	10
ANTHRACENE  AZOBENZENE  BENZIDINE  BENZO(A)ANTHRACENE  BENZO(A)ANTHRACENE  BENZO(A)ANTHRACENE  BENZO(B)FLUORANTHENE  BENZO(B)FLUORANTHENE  BENZO(B)FLUORANTHENE  BENZO(K)FLUORANTHENE  BENZO(K)FLUORANTHENE  BENZO(K)FLUORANTHENE  BENZO(K)FLUORANTHENE  BENZO(CACID  BENZOLC ACID  BENZOLL ALCOHOL  BENZOLC ACID  BENZOLL ALCOHOL  BENZOLL  BENZOLL ALCOHOL  BENZOLL ALCOHOL  BENZOLL ALCOHOL  BENZOLL ALCOHOL  BENZOLL ALCOHOL  BENZOLL ALCOHOL  BENZOLL  BENZOLL ALCOHOL	50
AZOBENZENE  BENZO(A)ANTHRACENE  BENZO(A)ANTHRACENE  BENZO(A)PYRENE  U ug/L -10  BENZO(B)FLUORANTHENE  U ug/L -10  BENZO(G,H,I)PERYLENE  U ug/L -10  BENZO(K)FLUORANTHENE  U ug/L -10  BENZO(K)FLUORANTHENE  U ug/L -10  BENZO(K)FLUORANTHENE  U ug/L -10  BENZOIC ACID  U ug/L -10  BENZOIC ACID  U ug/L -10  BENZOLC ACID  U ug/L -10  BIS(2-CHLOROETHOXY)METHANE  U ug/L -10  BIS(2-CHLOROETHYL) ETHER  U ug/L -10  BIS(2-CHLOROETHYL) ETHER  U ug/L -10  BIS(2-ETHYLHEXYL) PHTHALATE  U ug/L -10  BIS(2-ETHYLHEXYL) PHTHALATE  U ug/L -10  BIS(2-ETHYLHEXYL) PHTHALATE  U ug/L -10  BIS(2-CHLOROETHOXY)METHANE  U ug/L -10  BIS(2-ETHYLHEXYL) PHTHALATE  U ug/L -10	10
BENZIDINE   U ug/L   -20	50
BENZO(A)ANTHRACENE	20
BENZO(A)PYRENE  BENZO(B)FLUORANTHENE  BENZO(G,H,I)PERYLENE  U ug/L -10  BENZO(K)FLUORANTHENE  U ug/L -10  BENZO(K)FLUORANTHENE  U ug/L -10  BENZOIC ACID  U ug/L -50  BENZYL ALCOHOL  U ug/L -10  BIS(2-CHLOROETHOXY)METHANE  U ug/L -10  BIS(2-CHLOROETHYL) ETHER  U ug/L -10  BIS(2-CHLOROISOPROPYL) ETHER  U ug/L -10  BIS(2-ETHYLHEXYL) PHTHALATE  U ug/L -10  CHRYSENE  U ug/L -10  DIBENZO(A,H)ANTHRACENE  U ug/L -10  DIBENZOFURAN  U ug/L -10	10
BENZO(B)FLUORANTHENE	10
BENZO(G,H,I)PERYLENE	10
BENZO(K)FLUORANTHENE  BENZO(C ACID  U ug/L  -50  BENZYL ALCOHOL  U ug/L  -10  BIS(2-CHLOROETHOXY)METHANE  U ug/L  -10  BIS(2-CHLOROETHYL) ETHER  U ug/L  -10  BIS(2-CHLOROISOPROPYL) ETHER  U ug/L  -10  BIS(2-ETHYLHEXYL) PHTHALATE  U ug/L  -20  BUTYL BENZYL PHTHALATE  U ug/L  -10  CHRYSENE  U ug/L  -10  DIBENZO(A,H)ANTHRACENE  U ug/L  -10  DIBENZOFURAN  U ug/L  -10  DIBENZOFURAN  U ug/L  -10  DIBENZOFURAN  U ug/L  -10  DIBENZOFURAN  U ug/L  -10	10
BENZOIC ACID   U ug/L   -50	10
BENZYL ALCOHOL	50
SIS(2-CHLOROETHOXY)METHANE	10
SIS(2-CHLOROETHYL) ETHER	10
SIS(2-CHLOROISOPROPYL) ETHER	10
SIS(2-ETHYLHEXYL) PHTHALATE	10
SUTYL BENZYL PHTHALATE	20
CHRYSENE         U ug/L         -10           DIBENZO(A,H)ANTHRACENE         U ug/L         -10           DIBENZOFURAN         U ug/L         -10           DIETHYLPHTHALATE         U ug/L         -10	10
DIBENZO(A,H)ANTHRACENE         U         ug/L         -10           DIBENZOFURAN         U         ug/L         -10           DIETHYLPHTHALATE         U         ug/L         -10	10
DIBENZOFURAN U ug/L -10 DIETHYLPHTHALATE U ug/L -10	10
DIETHYLPHTHALATE U ug/L -10	10
	10
	10
DI-N-BUTYL PHTHALATE U ug/L -10	10

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## ACZ Project ID: L38419

DI-N-OCTYL PHTHALATE	U	ug/L		-10	10
FLUORANTHENE	U	ug/L		-10	10
FLUORENE	U	ug/L		-10	10
HEXACHLOROBENZENE	U	ug/L		-10	10
HEXACHLOROBUTADIENE	U	ug/L		-10	10
HEXACHLOROCYCLOPENTADIENE	U	ug/L		-20	20
HEXACHLOROETHANE	U	ug/L		-10	10
INDENO(1,2,3-CD)PYRENE	U	ug/L		-10	10
ISOPHORONE	U	ug/L		-10	10
NAPHTHALENE	U	ug/L		-10	10
NITROBENZENE	U	ug/L		-10	10
N-NITROSODIMETHYLAMINE	U	ug/L		-50	50
N-NITROSODI-N-PROPYLAMINE	U	ug/L		-10	10
N-NITROSODIPHENYLAMINE	U	ug/L		-10	10
PENTACHLOROPHENOL	U	ug/L		-50	50
PHENANTHRENE	U	ug/L		-10	10
PHENOL	U	ug/L		-20	20
PYRENE	U	ug/L		-10	10
2,4,6-TRIBROMOPHENOL (surr)		%	77.4	40	125
2-FLUOROBIPHENYL (surr)		%	74.9	50	110
2-FLUOROPHENOL (surr)		%	71.1	54	100
NITROBENZENE-D5 (surr)		%	77.2	40	110
PHENOL-D6 (surr)		%	77.3	47	113
TERPHENYL-D14 (surr)		%	91.2	50	135

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Organic Extended Qualifier Report

ACZ Project ID: L38419

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL DES	CRIPTION
L38419-01	WG427395	*All Compounds*	M8270C GC/MS	valida	ive Percent Difference (RPD) was not used for data ation because the concentration of the duplicated le is too low for accurate evaluation (< 10x MDL).
		Pyrene	M8270C GC/MS		x spike recovery was low, the recovery of the ciated control sample (LCS or LFB) was acceptable.

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Certification Qualifiers

Stewart Environmental Consultants, Inc.

ACZ Project ID: L38419

GC/MS

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

1,4-Dioxane

M8270C GC/MS

# Sample Receipt

NO

#### Stewart Environmental Consultants, Inc.

Receipt Verification

ACZ Project ID:

L38419

Date Received: 07/13/2017 10:20

YES

Received By:

Date Printed:

7/13/2017

NA

Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	Х		
3) Does this project require special handling procedures such as CLP protocol?			Х
4) Are any samples NRC licensable material?			Х
5) If samples are received past hold time, proceed with requested short hold time analyses?	Х		
6) Is the Chain of Custody form complete and accurate?	X		441
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?	X		
A change was made in the Analyses Requested Line 2 and Total No. of Cont. Line 1 section prior to ACZ custody.			
Samples/Containers	THE S	Cal III	
	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	Х		No Contraction
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	Х		
11) For preserved bottle types, was the pH checked and within limits? 1		Х	
L38419-01 Container B1861634 (YELLOW GLASS): Added 2 mls sulfuric acid to the sub-sample to adjust the pH to the appropriate range.			
12) Is there sufficient sample volume to perform all requested work?	Х		
13) Is the custody seal intact on all containers?			Х
			Х
14) Are samples that require zero headspace acceptable?			_ ^
<ul><li>14) Are samples that require zero headspace acceptable?</li><li>15) Are all sample containers appropriate for analytical requirements?</li></ul>		Х	^
		X	^
15) Are all sample containers appropriate for analytical requirements?  L38419-01: A Yellow Glass container not received and a new		X	X
15) Are all sample containers appropriate for analytical requirements?  L38419-01: A Yellow Glass container not received and a new container created from the Amber.		Х	
<ul> <li>15) Are all sample containers appropriate for analytical requirements?         L38419-01: A Yellow Glass container not received and a new container created from the Amber.     </li> <li>16) Is there an Hg-1631 trip blank present?</li> </ul>	X	X	X
<ul> <li>15) Are all sample containers appropriate for analytical requirements? L38419-01: A Yellow Glass container not received and a new container created from the Amber.</li> <li>16) Is there an Hg-1631 trip blank present?</li> <li>17) Is there a VOA trip blank present?</li> </ul>	X	X	X
<ul> <li>15) Are all sample containers appropriate for analytical requirements?  L38419-01: A Yellow Glass container not received and a new container created from the Amber.</li> <li>16) Is there an Hg-1631 trip blank present?</li> <li>17) Is there a VOA trip blank present?</li> <li>18) Were all samples received within hold time?</li> </ul>	X	X	X
<ul> <li>15) Are all sample containers appropriate for analytical requirements?  L38419-01: A Yellow Glass container not received and a new container created from the Amber.</li> <li>16) Is there an Hg-1631 trip blank present?</li> <li>17) Is there a VOA trip blank present?</li> <li>18) Were all samples received within hold time?</li> <li>Chain of Custody Related Remarks</li> </ul>	X	X	X
15) Are all sample containers appropriate for analytical requirements?  L38419-01: A Yellow Glass container not received and a new container created from the Amber.  16) Is there an Hg-1631 trip blank present?  17) Is there a VOA trip blank present?  18) Were all samples received within hold time?  Chain of Custody Related Remarks  Client Contact Remarks	X	X	X



# Sample Receipt

Stewart Environmental Consultants, Inc.

ACZ Project ID:

L38419

Date Received: 07/13/2017 10:20

Received By:

Date Printed:

7/13/2017

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).







STEWART ENVIRONMENTAL CONSULTANTS, INC. 3801 Automation Way, Suite 200, Fort Collins, CO 80525

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Telephone: (970) 226-5500

Facsimile: (

PAGE \_\_\_\_ OF \_\_

2012 E (ON) 1-2711	CLIENT:		S	tratus (	Compan	ies - AC	)Z			Name:	VIES STONACT
Sample No.	SAMPLE	COLLECTIO	N INFO					QC		Signature:	
	Date	Time	Grab / Comp	CLIENT SA	AMPLE IDENT	TFICATION	Matrix Type	Report Neede	Total No. of Cont.	U	ANALYSES REQUESTED
	7.12.11	13:40	GI	MW	-16		WU		4		270 (see back of COC) - ACZ
									<i>'</i> 3	عنت	
										Total Orga	anic Carbon - ACZ
							-				
						- a					
Compliance	eamples may	rediulte voui t	report the te	mperaturê of	samples as th	ev arrive in th	ie laboral	nry Wo	l úldívou like	the temperati	ite of samples recorded upon receipt by the
Leaving thi	s field blank i	mplies that the	ne incomina	emperature	is not reques	ed					ure of samples recorded upon receipt by the
RELINQUIS			Received by		Date / Time	REQUESTE	D COMP	LETION	DATE	REPORT TO:	
4-6	2	7-12-17	XInte	UE	7:121						PHONE:
U -	01	16:30	1000	1							FAX:
			110	<u>e</u>	16.30-			7		CLIENT:	
Relinquished	i by	Date / Time Received by			Date / Time		MATRIX TYPE				
					1-17-11	. WW = waste water DW = drinking water				ADDRESS:	
		1	19		1020		L ≡ Liqu		alei	CITY, STATE ZI	P:
Relinquished	d by	Date / Time	Received by	ceived by		S = s	ŝoli SL ≡ ŝiudge		Sludge *		
	-				Date / Time	A=V	Air away A	SD	.≝Sõlia ≀.	INVOICE TO: ADDRESS:	
	TO EXAMINE					PWSID.#	4			The state of the s	
						Samp	le Kit Sei	it? Yes	/-No	CITY, STATE ZI	P:



August 04, 2017

Report to:

Trevor Mueller

Stewart Environmental Consultants, Inc.

2600 Canton Ct.

Unit C

Fort Collins, CO 80525

cc: Trevor Mueller

Bill to:

Accounts Payable

Stewart Environmental Consultants, Inc.

2600 Canton Ct.

Unit C

Fort Collins, CO 80525

Project ID:

ACZ Project ID: L38587

Trevor Mueller:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on July 20, 2017. This project has been assigned to ACZ's project number, L38587. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L38587. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after September 03, 2017. If the samples are determined to be hazardous, additional charges apply for disposal (typically \$11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

Due Wellen







Inorganic Analytical Results

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Stewart Environmental Consultants, Inc.

Project ID:

Sample ID:

MW-16

ACZ Sample ID: L38587-01

Date Sampled: 07/17/17 13:30

Date Received: 07/20/17

Sample Matrix: Waste Water

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
,	SM5310B	1	1.0	В		mg/L	1	5	08/01/17 11:00	) bce
(TOC)										

Arizona license number: AZ0102



2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Report Header	Explanations
Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5).
	Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Ty	pes		
AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	LFM	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	LFMD	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	LRB	Laboratory Reagent Blank
ICB	Initial Calibration Blank	MS	Matrix Spike
ICV	Initial Calibration Verification standard	MSD	Matrix Spike Duplicate
<b>ICSAB</b>	Inter-element Correction Standard - A plus B solutions	PBS	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	PBW	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	PQV	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	SDL	Serial Dilution

		xolanations	

Blanks Verifies that there is no or minimal contamination in the prep method or calibration procedure.

Control Samples Verifies the accuracy of the method, including the prep procedure.

Duplicates Verifies the precision of the instrument and/or method. Spikes/Fortified Matrix Determines sample matrix interferences, if any.

Standard Verifies the validity of the calibration.

### ACZ Qualifiers (Qual)

		_
В	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.	

- H Analysis exceeded method hold time. pH is a field test with an immediate hold time.
- L Target analyte response was below the laboratory defined negative threshold.
- U The material was analyzed for, but was not detected above the level of the associated value.

The associated value is either the sample quantitation limit or the sample detection limit.

## Method References

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples Supplement I, May 1994.
- (4) EPA SW-846. Test Methods for Evaluating Solid Waste.
- (5) Standard Methods for the Examination of Water and Wastewater.

### Comments

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
- (4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
- (5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:

http://www.acz.com/public/extquallist.pdf

REP001.03.15.02

Inorganic Extended Qualifier Report

Stewart Environmental Consultants, Inc.

ACZ Project ID: L38587

ACZ ID

WORKNUM PARAMETER

METHOD

QUAL DESCRIPTION

No extended qualifiers associated with this analysis

Certification Qualifiers

Stewart Environmental Consultants, Inc.

ACZ Project ID: L38587

No certification qualifiers associated with this analysis



## Sample Receipt

Stewart Environmental Consultants. II	nc.
---------------------------------------	-----

ACZ Project ID:

L38587

Date Received: 07/20/2017 11:33

Received By:

Date Pr	inted:	7/2	20/2017
Receipt Verification	The sale	A SIGN	4.36
1) le a faraign aoil narmit inaludad far annliaghla camplas?	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			Х
2) Is the Chain of Custody form or other directive shipping papers present?	Х		
Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	Х		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		Х	N PA
Samples/Containers	3/1/3/1	THE CO	Ball In
	YES	NO	NA
8) Are all containers intact and with no leaks?	Х		7 B
9) Are all labels on containers and are they intact and legible?	Х		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	Х		
11) For preserved bottle types, was the pH checked and within limits? 1	X		
12) Is there sufficient sample volume to perform all requested work?	Х		
13) Is the custody seal intact on all containers?			Х
14) Are samples that require zero headspace acceptable?			Х
15) Are all sample containers appropriate for analytical requirements?	Х		5041
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			Х
18) Were all samples received within hold time?	Х		TE PE
Chain of Custody Related Remarks			10 /4 TE =
Client Contact Remarks	SVEL3A		
Shipping Containers	SE SE	1000	
Cooler Id Temp(°C) Temp Rad(µR/Hr) Custody Seal Criteria(°C) Intact?			
4413 0.3 <=6.0 15 N/A			
Was ice present in the shipment container(s)?			
Yes - Wet ice was present in the shipment container(s).			

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

REPAD LPII 2012-03



## Sample Receipt

Stewart Environmental Consultants, Inc.

ACZ Project ID: L38587

Date Received: 07/20/2017 11:33

Received By:

Date Printed: 7/20/2017

L38587-1708041333 Page 7 of 8

<sup>&</sup>lt;sup>1</sup> The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).





# CHAIN OF CUSTODY RECORD

STEWART ENVIRONMENTAL CONSULTANTS, INC. 3801 Automation Way, Suite 200, Fort Collins, CO 80525

138587

## Batch

Telephone: (970) 226-5500
Facsimile: ( PAGE \_\_\_\_ OF \_\_\_\_

				Stratus	s Compa	anies -	ACZ			Name: J		Stewart
Sample No.	SAMPLE	COLLECTIO	N INFO							Signature:	1-	A
	Date	Time	Grab / Comp	CLIENT SA	AMPLE IDENT	TIFICATION	Matrix Type	QC Report Needed	Total No. of Cont.		ANALYSES	REQUESTED
										Phenois		
	7.17.17	13:30		·mw·	116		UN		1			
	·											
											97.	
										Di-n-buty	Phthalate	)
										Diethyl Pl	hti)alate	
										Dimethyl	Phthalate	
												)
										1,4-Digka	ne \	
										Benzoic A	Acid \	
									ì	Bericyl al	cohol	
										2-Methylp	henol	
	mr + +	**			B 6		e laborator	y. Would yo	ou like the tem	perature of sa	amples record	ed upon receipt by the
RELINQUISH		DATE/TIME	Received by	1/ /	Date / Time	REQUESTE	O COMPLE	TRON DATE		REPORT TO:	PHONE:	
	01		CTF	1/19/17	1430						FAX:	
Relinguished	by		Received by				MATR	IX TYPE		CLIENT:		
tomiquionou	7//		7,000,700 07	7//					• •	ADDRESS:		
CFF.	//19/17	1630	1 Feet	7/29/1	P 1153		DW = drir	nking water I		CITY, STATE ZI	P:	
Relinquished	by '	Date / Time	Received by		Date / Time	S = s	ioil		sludge			
						A = /	Air DPHE REP	SD:	= Solid	INVOICE TO:	7.2	
- design change to	7997 SWING BROOM		**************************************						٠, ٠,٠	ADDRESS:		
	STATUS COMPANIES - ACZ  Sample No. SAMPLE COLLECTION INFO Date Time Grab / Comp  CLIENT SAMPLE IDENTIFICATION Matrix Type  Total No. of Type  Phenrols - ANALYSES REQUESTED  Phenrols - ANALYSES REQUESTED  Total Organic Carbon - ANALYSES REQUESTED  Phenrols - Total Organic Carbon - ANALYSES REQUESTED  Phenrols - Total Organic Carbon - ANALYSES REQUESTED  Phenrols - Total Organic Carbon - ANALYSES REQUESTED  Directly Phthalate  Directly Phthalat											

August 18, 2017

Report to:

**Trevor Mueller** 

Stewart Environmental Consultants, Inc.

2600 Canton Ct.

Unit C

Fort Collins, CO 80525

cc: Trevor Mueller

Bill to:

Accounts Payable

Stewart Environmental Consultants, Inc.

2600 Canton Ct.

Unit C

Fort Collins, CO 80525

Project ID:

ACZ Project ID: L38809

Trevor Mueller:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on July 28, 2017. This project has been assigned to ACZ's project number, L38809. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L38809. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after September 17, 2017. If the samples are determined to be hazardous, additional charges apply for disposal (typically \$11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

re Wallen







Inorganic Analytical Results

Stewart Environmental Consultants, Inc.

Project ID:

Sample ID:

MW-19

Date Sampled: 07/27/17 10:00

Date Received: 07/28/17

Sample Matrix: Waste Water

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual XQ	Units	MDL	PQL	Date	Analyst
Carbon, total organic	SM5310B	1	6.7	*	mg/L	1	5	08/02/17 17:31	bce
(TOC)									

Arizona license number: AZ0102



2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

eport Header	Explanations
Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5).
	Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

C Sample T	ypes	GRADE DATE	
AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	LFM	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	LFMD	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	LRB	Laboratory Reagent Blank
ICB	Initial Calibration Blank	MS	Matrix Spike
ICV	Initial Calibration Verification standard	MSD	Matrix Spike Duplicate
<b>ICSAB</b>	Inter-element Correction Standard - A plus B solutions	PBS	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	PBW	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	PQV	Practical Quantitation Verification standard

SDL

Serial Dilution

proper		The same of		
[0]0]	Sample	NACE OF THE	ED (00) Fall	nations
Books		MCASSI		

Blanks Verifies that there is no or minimal contamination in the prep method or calibration procedure.

Control Samples Verifies the accuracy of the method, including the prep procedure.

Duplicates Verifies the precision of the instrument and/or method. Spikes/Fortified Matrix Determines sample matrix interferences, if any.

Standard Verifies the validity of the calibration.

Laboratory Control Sample - Water

## ACZ Qualifiers (Qual)

LCSW

B Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.

H Analysis exceeded method hold time. pH is a field test with an immediate hold time.

L Target analyte response was below the laboratory defined negative threshold.

U The material was analyzed for, but was not detected above the level of the associated value.

The associated value is either the sample quantitation limit or the sample detection limit.

### Method References

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples Supplement I, May 1994.
- (4) EPA SW-846. Test Methods for Evaluating Solid Waste.
- (5) Standard Methods for the Examination of Water and Wastewater.

### Comments

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
- (4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
- (5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:

http://www.acz.com/public/extquallist.pdf

REP001.03.15.02

ACZ Project ID: L38809

Carbon, total o	rganic (T	OC)	SM5310B										
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG427972													
WG427972ICV	ICV	08/01/17 11:00	WI170707-1	100		104	mg/L	104	90	110			
WG427972ICB	ICB	08/01/17 11:00				U	mg/L		-3	3			
WG428037													
WG428037LFB	LFB	08/02/17 17:31	WI170531-4	50		48.1	mg/L	96	90	110			
L38710-01DUP	DUP	08/02/17 17:31			2.4	3.3	mg/L				32	20	F
L38710-02AS	AS	08/02/17 17:31	WI170531-4	50	1.1	52.8	mg/L	103	90	110			

Inorganic Extended Qualifier Report

**Stewart Environmental Consultants, Inc.** 

ACZ Project ID: L38809

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L38809-01	WG428037	Carbon, total organic (TOC)	SM5310B	RA	Relative Percent Difference (RPD) was not used for data
					validation because the concentration of the duplicated
					sample is too low for accurate evaluation (< 10x MDL).

Organic Analytical Results

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Stewart Environmental Consultants, Inc.

Project ID:

Sample ID:

MW-19

ACZ Sample ID: L38809-01

Date Sampled: 07/27/17 10:00

Date Received:

07/28/17

Sample Matrix: Waste Water

## Base Neutral Acid Extractables by GC/MS

Analysis Method: M8270C GC/MS

Extract Method: M3520C

WG429249 Workgroup:

Analyst:

itm

Extract Date: Analysis Date: 08/02/17 16:27

08/16/17 14:45

	20-82-1	U					
1,2-Dichlorobenzene 95		U	0.94	*	ug/L	2	9
	5-50-1	U	0.94	*	ug/L	2	9
1,3-Dichlorobenzene 54	11-73-1	U	0.94	*	ug/L	2	9
1,4-Dichlorobenzene 10	06-46-7	U	0.94	*	ug/L	2	9
1,4-Dioxane 12	23-91-1	U	0.94	*	ug/L	2	9
2,4,5-Trichlorophenol 95	5-95-4	U	0.94	*	ug/L	9	50
2,4,6-Trichlorophenol 88	3-06-2	U	0.94	*	ug/L	2	9
	20-83-2	U	0.94	*	ug/L	2	9
2,4-Dimethylphenol 10	05-67-9	U	0.94	*	ug/L	4	20
2,4-Dinitrophenol 51	-28-5	U	0.94	*	ug/L	20	50
2,4-Dinitrotoluene 12	21-14-2	U	0.94	*	ug/L	2	9
2,6-Dinitrotoluene 60	06-20-8	U	0.94	*	ug/L	9	50
2-Chloronaphthalene 91	-58-7	U	0.94	*	ug/L	2	9
2-Chlorophenol 95	5-57-8	U	0.94	*	ug/L	2	9
2-Methylnaphthalene 91	-57-6	U	0.94	*	ug/L	2	9
2-Methylphenol 95	5-48-7	U	0.94	*	ug/L	2	9
2-Nitroaniline 88	3-74-4	U	0.94	*	ug/L	9	50
2-Nitrophenol 88	3-75-5	U	0.94	*	ug/L	4	20
3- & 4-Methylphenol 13	319-77-3	U	0.94	*	ug/L	4	20
3,3-Dichlorobenzidine 91-	-94-1	U	0.94	*	ug/L	20	50
3-Nitroaniline 99-	0-09-2	U	0.94	*	ug/L	9	50
4,6-Dinitro-2-methylphenol 53-	34-52-1	U	0.94	*	ug/L	9	50
4-Bromophenyl phenyl ether 10	1-55-3	U	0.94	*	ug/L	2	9
4-Chloro-3-methylphenol 59-	)-50-7	U	0.94	*	ug/L	2	9
4-Chloroaniline 10	06-47-8	U	0.94	*	ug/L	2	9
4-Chlorophenyl phenyl ether 70	005-72-3	U	0.94	*	ug/L	2	9
4-Nitroaniline 10	0-01-6	U	0.94	*	ug/L	9	50
4-Nitrophenol 10	0-02-07	U	0.94	*	ug/L	9	50
Acenaphthene 83-	3-32-9	U	0.94	*	ug/L	2	9
Acenaphthylene 20	8-96-8	U	0.94	*	ug/L	2	9
Aniline 62-	2-53-3	U	0.94	*	ug/L	9	50
Anthracene 12	0-12-7	U	0.94	*	ug/L	2	9
Azobenzene 103	3-33-3	U	0.94	*	ug/L	9	50
Benzidine 92-	-87-5	U	0.94	*	ug/L	4	20
Benzo(a)anthracene 56-	-55-3	U	0.94	*	ug/L	2	9
Benzo(a)pyrene 50-	-32-8	U	0.94	*	ug/L	2	9
Benzo(b)fluoranthene 20	5-99-2	U	0.94	*	ug/L	2	9
Benzo(g,h,i)perylene 19	11-24-2	U	0.94	*	ug/L	2	9

<sup>\*</sup> Please refer to Qualifier Reports for details.

Project ID:

Sample ID: MW-19 ACZ Sample ID: L38809-01

Date Sampled: 07/27/17 10:00 Date Received: 07/28/17

			Sai	mple Matri	ix:	Waste V	Vater	
Benzo(k)fluoranthene	207-08-9		U	0.94	*	ug/L	2	9
Benzoic Acid	65-85-0		U	0.94	*	ug/L	20	50
Benzyl alcohol	100-51-6		U	0.94	*	ug/L	2	9
Bis(2-chloroethoxy)methane	111-91-1		U	0.94	*	ug/L	2	9
Bis(2-chloroethyl) ether	111-44-4		U	0.94	*	ug/L	2	9
Bis(2-chloroisopropyl) ether	108-60-1		U	0.94	*	ug/L	2	9
Bis(2-ethylhexyl) phthalate	117-81-7		U	0.94	*	ug/L	4	20
Butyl benzyl phthalate	85-68-7		U	0.94	*	ug/L	2	9
Chrysene	218-01-9		U	0.94	*	ug/L	2	9
Dibenzo(a,h)anthracene	53-70-3		U	0.94	*	ug/L	2	9
Dibenzofuran	132-64-9		U	0.94	*	ug/L	2	9
Diethylphthalate	84-66-2		U	0.94	*	ug/L	2	9
Dimethyl phthalate	131-11-3		U	0.94	*	ug/L	2	9
Di-n-butyl phthalate	84-74-2		U	0.94	*	ug/L	2	9
Di-n-octyl phthalate	117-84-0		U	0.94	*	ug/L	2	9
Fluoranthene	206-44-0		U	0.94	*	ug/L	2	9
Fluorene	86-73-7		U	0.94	*	ug/L	2	9
Hexachlorobenzene	118-74-1		U	0.94	*	ug/L	2	9
Hexachlorobutadiene	87-68-3		U	0.94	*	ug/L	2	9
Hexachlorocyclopentadiene	77-47-4		U	0.94	*	ug/L	4	20
Hexachloroethane	67-72-1		U	0.94	*	ug/L	2	9
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.94	*	ug/L	2	9
Isophorone	78-59-1		U	0.94	*	ug/L	2	9
Naphthalene	91-20-3		U	0.94	*	ug/L	2	9
Nitrobenzene	98-95-3		U	0.94	*	ug/L	2	9
N-Nitrosodimethylamine	62-75-9		U	0.94	*	ug/L	9	50
N-Nitrosodi-n-propylamine	621-64-7		U	0.94	*	ug/L	2	9
N-Nitrosodiphenylamine	86-30-6		U	0.94	*	ug/L	2	9
Pentachlorophenol	87-86-5		U	0.94	*	ug/L	9	50
Phenanthrene	85-01-8		U	0.94	*	ug/L	2	9
Phenol	108-95-2		U	0.94	*	ug/L	4	20
Pyrene	129-00-0		U	0.94	*	ug/L	2	9
Surrogate Recoveries	CAS	% Recovery	25/2	Dilution	XQ	Units	LCL	UCL
2,4,6-Tribromophenol	118-79-6	80.4		0.94	*	%	40	125
2-Fluorobiphenyl	321-60-8	71.9		0.94	*	%	50	110
2-Fluorophenol	367-12-4	54.3		0.94	*	%	54	100
Nitrobenzene-d5	4165-60-0	68.9		0.94	*	%	40	110
Phenol-d6	13127-88-3	65.7		0.94	*	%	47	113
Terphenyl-d14	1718-51-0	69.6		0.94	*	%	50	135

Arizona license number: AZ0102

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Repor				

Batch A distinct set of samples analyzed at a specific time

Found Value of the QC Type of interest

Limit Upper limit for RPD, in %.

Lower Recovery Limit, in % (except for LCSS, mg/Kg)

LCL Lower Control Limit

MDL Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #4)

Allows for instrument and annual fluctuations.

PCN/SCN A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis

PQL Practical Quantitation Limit. Synonymous with the EPA term "minimum level".

QC True Value of the Control Sample or the amount added to the Spike

Rec Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)

RPD Relative Percent Difference, calculation used for Duplicate QC Types

UCL Upper Control Limit

Sample Value of the Sample of interest

#### QC Sample Types

SURR	Surrogate	LFM	Laboratory Fortified Matrix
INTS	Internal Standard	LFMD	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	LRB	Laboratory Reagent Blank
LCSS	Laboratory Control Sample - Soil	MS/MSD	Matrix Spike/Matrix Spike Duplicate
LCSW	Laboratory Control Sample - Water	PBS	Prep Blank - Soil
LFB	Laboratory Fortified Blank	PBW	Prep Blank - Water

#### QC Sample Type Explanations

Blanks Verifies that there is no or minimal contamination in the prep method or calibration procedure.

Control Samples Verifies the accuracy of the method, including the prep procedure.

Duplicates Verifies the precision of the instrument and/or method.

Spikes/Fortified Matrix Determines sample matrix interferences, if any.

### ACZ Qualifiers (Qual)

B Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.

O Analyte concentration is estimated due to result exceeding calibration range.

H Analysis exceeded method hold time. pH is a field test with an immediate hold time.

J Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.

L Target analyte response was below the laboratory defined negative threshold.

U The material was analyzed for, but was not detected above the level of the associated value.

The associated value is either the sample quantitation limit or the sample detection limit.

### Method References

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/4-90/020. Methods for the Determination of Organic Compounds in Drinking Water (I), July 1990.
- (3) EPA 600/R-92/129. Methods for the Determination of Organic Compounds in Drinking Water (II), July 1990.
- (4) EPA SW-846. Test Methods for Evaluating Solid Waste.
- (5) Standard Methods for the Examination of Water and Wastewater.

### Comments

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Excluding Oil & Grease, solid & biological matrices for organic analyses are reported on a wet weight basis.
- (3) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
- (4) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:

http://www.acz.com/public/extquallist.pdf

ACZ Project ID: L38809

## **Base Neutral Acid Extractables by GC/MS**

M8270C GC/MS

### WG429249

MS	Sample ID:	L38809-01MS	38809-01MS		PCN/SCN: OPBNA170523-1					08/16	/17 15:19
Compound	Ser - Congression	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
1,2,4-TRICHLORO	BENZENE	50013	U	27.1	ug/L	57.0	35	105			
1,4-DICHLOROBE	NZENE	50013	U	25.9	ug/L	55.0	30	100			
2,4-DINITROTOLU	ENE	50013	U	35.7	ug/L	76.0	50	120			
2-CHLOROPHENO	)L	75080	U	44.8	ug/L	63.0	35	105			
4-CHLORO-3-MET	HYLPHENOL	75040	U	53.8	ug/L	76.0	45	110			
4-NITROPHENOL		75120	U	55.2	ug/L	78.0	0	125			
ACENAPHTHENE		50007	U	35.5	ug/L	75.0	45	110			
N-NITROSODI-N-P	ROPYLAMINE	50027	U	33.7	ug/L	71.0	35	130			
PENTACHLOROPI	HENOL	75040	U	60.7	ug/L	86.0	40	115			
PHENOL		75060	U	47	ug/L	66.0	0	115			
PYRENE		50003	U	36.3	ug/L	77.0	50	130			
2,4,6-TRIBROMOP	HENOL (surr)				%	88.1	40	125			
2-FLUOROBIPHEN	IYL (surr)				%	77.3	50	110			
2-FLUOROPHENO	L (surr)				%	61.9	54	100			
NITROBENZENE-D	)5 (suп)				%	76.0	40	110			
PHENOL-D6 (surr)					%	71.9	47	113			
TERPHENYL-D14	(surr)				%	78.2	50	135			

DUP	Sample ID:	L38810-01DUP						Analy	zed:	08/16	/17 16:25
Compound	AVEL SE	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
1,2,4-TRICHLOROBENZE	NE.		υ	U	ug/L				0	20	RA
1,2-DICHLOROBENZENE			U	U	ug/L				0	20	RA
1,3-DICHLOROBENZENE			U	U	ug/L				0	20	RA
1,4-DICHLOROBENZENE			U	U	ug/L				0	20	RA
1,4-DIOXANE			11	10.1	ug/L				9	20	RA
2,4,5-TRICHLOROPHENO	L		U	U	ug/L				0	20	RA
2,4,6-TRICHLOROPHENO	L		U	U	ug/L				0	20	RA
2,4-DICHLOROPHENOL			U	U	ug/L				0	20	RA
2,4-DIMETHYLPHENOL			U	U	ug/L				0	20	RA
2,4-DINITROPHENOL			U	U	ug/L				0	20	RA
2,4-DINITROTOLUENE			Ŋ	U	ug/L				0	20	RA
2,6-DINITROTOLUENE			U	U	ug/L				0	20	RA
2-CHLORONAPHTHALENI	Ξ		U	U	ug/L				0	20	RA
2-CHLOROPHENOL			U	U	ug/L				0	20	RA
2-METHYLNAPHTHALENE			U	U	ug/L				0	20	RA
2-METHYLPHENOL			U	U	ug/L				0	20	RA
2-NITROANILINE			U	U	ug/L				0	20	RA
2-NITROPHENOL			U	U	ug/L				0	20	RA
3- & 4-METHYLPHENOL			U	U	ug/L				0	20	RA
3,3-DICHLOROBENZIDINE			U	U	ug/L				0	20	RA
3-NITROANILINE			U	U	ug/L				0	20	RA
4,6-DINITRO-2-METHYLPH	IENOL		U	U	ug/L				0	20	RA
4-BROMOPHENYL PHENY	'L ETHER		U	U	ug/L				0	20	RA
4-CHLORO-3-METHYLPHE	ENOL		υ	U	ug/L				0	20	RA

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ACZ Project ID: L38809

4-CHLOROANILINE	U	U	ug/L				0	20	
4-CHLOROPHENYL PHENYL ETHER	U	U	ug/L				0	20	
4-NITROANILINE	U	U	ug/L				0	20	
4-NITROPHENOL	U	U	ug/L				0	20	
ACENAPHTHENE	U	U	ug/L				0	20	
ACENAPHTHYLENE	U	U	ug/L				0	20	
ANILINE	U	U	ug/L				0	20	
ANTHRACENE	U	U	ug/L				0	20	
AZOBENZENE	U	U	ug/L				0	20	
BENZIDINE	U	U	ug/L				0	20	
BENZO(A)ANTHRACENE	U	U	ug/L				0	20	
BENZO(A)PYRENE	U	U	ug/L				0	20	
BENZO(B)FLUORANTHENE	U	U	ug/L				0	20	
BENZO(G;H,I)PERYLENE	U	U	ug/L				0	20	
BENZO(K)FLUORANTHENE	U	U	ug/L				0	20	
BENZOIC ACID	U	U	ug/L				0	20	
BENZYL ALCOHOL	U	U	ug/L				0	20	
BIS(2-CHLOROETHOXY)METHANE	U	U	ug/L				0	20	
BIS(2-CHLOROETHYL) ETHER	U	U	ug/L				0	20	
BIS(2-CHLOROISOPROPYL) ETHER	U	U	ug/L				0	20	
BIS(2-ETHYLHEXYL) PHTHALATE	U	U	ug/L				0	20	
BUTYL BENZYL PHTHALATE	U	U	ug/L				0	20	
CHRYSENE	U	U	ug/L				0	20	
DIBENZO(A,H)ANTHRACENE	U	U	ug/L				0	20	
DIBENZOFURAN	U	U	ug/L				0	20	
DIETHYLPHTHALATE	U	U	ug/L				0	20	
DIMETHYL PHTHALATE	U	U	ug/L				0	20	
DI-N-BUTYL PHTHALATE	U	U	ug/L				0	20	
DI-N-OCTYL PHTHALATE	U	U	ug/L				0	20	
FLUORANTHENE	U	U	ug/L				0	20	
FLUORENE	U	U	ug/L				0	20	
HEXACHLOROBENZENE	U	U	ug/L				0	20	
HEXACHLOROBUTADIENE	U	U	ug/L				0	20	
HEXACHLOROCYCLOPENTADIENE	U	U	ug/L				0	20	
HEXACHLOROETHANE	U	U	ug/L				0	20	
INDENO(1,2,3-CD)PYRENE	U	U	ug/L				0	20	
ISOPHORONE	U	U	ug/L				0	20	
NAPHTHALENE	U	U	ug/L				0	20	
NITROBENZENE	U	U	ug/L				0	20	
N-NITROSODIMETHYLAMINE	U	U	ug/L				0	20	
N-NITROSODI-N-PROPYLAMINE	U	U	ug/L				0	20	
N-NITROSODIPHENYLAMINE	U	U	ug/L				0	20	
PENTACHLOROPHENOL	U	U	ug/L				0	20	
PHENANTHRENE	U	U	ug/L				0	20	
PHENOL	U	U	ug/L				0	20	
PYRENE	U	U	ug/L				0	20	
2,4,6-TRIBROMOPHENOL (surr)			%	92.6	40	125			
2-FLUOROBIPHENYL (surr)			%	70.3	50	110			

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## ACZ Project ID: L38809

NITROBENZENE-D5 (surr)	%	72.0	40	110
PHENOL-D6 (surr)	%	73.7	47	113
TERPHENYL-D14 (surr)	%	60.8	50	135

		WG428109LCSW		PCN/S	Analyzed:		08/16/17 13:3				
Compound	1357114	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
1,2,4-TRICHLOROBENZEN	E	50013		29.6	ug/L	59.0	35	105			
1,4-DICHLOROBENZENE		50013		29.4	ug/L	59.0	30	100			
2,4-DINITROTOLUENE		50013		39.9	ug/L	80.0	50	120			
2-CHLOROPHENOL		75080		51	ug/L	68.0	35	105			
4-CHLORO-3-METHYLPHE	NOL	75040		55.2	ug/L	74.0	45	110			
4-NITROPHENOL		75120		60	ug/L	80.0	0	125			
ACENAPHTHENE		50007		38.7	ug/L	77.0	45	110			
N-NITROSODI-N-PROPYLA	MINE	50027		40.1	ug/L	80.0	35	130			
PENTACHLOROPHENOL		75040		55	ug/L	73.0	40	115			
PHENOL		75060		52.5	ug/L	70.0	0	115			
PYRENE		50003		44.8	ug/L	90.0	50	130			
2,4,6-TRIBROMOPHENOL (	surr)				%	81.7	40	125			
2-FLUOROBIPHENYL (surr)					%	79.9	50	110			
2-FLUOROPHENOL (surr)					%	67.8	54	100			
NITROBENZENE-D5 (surr)					%	82.8	40	110			
PHENOL-D6 (surr)					%	75.5	47	113			
TERPHENYL-D14 (surr)					%	107.2	50	135			

LCSWD	Sample ID:	WG428109LCSW	D	PCN/S	CN: OPB	NA17052	3-1	Analy	/zed:	08/16	/17 14:12
Compound	- 41 131	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
1,2,4-TRICHLOROBENZENE		50013		36	ug/L	72.0	35	105	20	20	
1,4-DICHLOROBENZENE		50013		36.3	ug/L	73.0	30	100	21	20	R4
2,4-DINITROTOLUENE		50013		43.3	ug/L	87.0	50	120	8	20	
2-CHLOROPHENOL		75080		63.3	ug/L	84.0	35	105	22	20	R4
4-CHLORO-3-METHYLPHEN	OL	75040		64.2	ug/L	86.0	45	110	15	20	
4-NITROPHENOL		75120		61	ug/L	81.0	0	125	2	20	
ACENAPHTHENE		50007		45	ug/L	90.0	45	110	15	20	
N-NITROSODI-N-PROPYLAM	IINE	50027		47.7	ug/L	95.0	35	130	17	20	
PENTACHLOROPHENOL		75040		60	ug/L	80.0	40	115	9	20	
PHENOL		75060		61.4	ug/L	82.0	0	115	16	20	
PYRENE		50003		45.2	ug/L	90.0	50	130	1	20	
2,4,6-TRIBROMOPHENOL (su	лц)				%	86.9	40	125			
2-FLUOROBIPHENYL (surr)					%	88.5	50	110			
2-FLUOROPHENOL (surr)					%	78.0	54	100			
NITROBENZENE-D5 (surr)					%	96.9	40	110			
PHENOL-D6 (surr)					%	84.1	47	113			
TERPHENYL-D14 (surr)					%	104.4	50	135			

QC						Analyzed:		08/16/17 13:0	
	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
		U	ug/L		-10	10			
		U	ug/L		-10	10			
		U	ug/L		-10	10			
			U U U	U ug/L	U ug/L	U ug/L -10	U ug/L -10 10	U ug/L -10 10	U ug/L -10 10

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ACZ Project ID: L38809

1,4-DICHLOROBENZENE	U	ug/L	-10	10	
1,4-DIOXANE	U	ug/L	-10	10	
2,4,5-TRICHLOROPHENOL	U	ug/L	-50	50	
2,4,6-TRICHLOROPHENOL	U	ug/L	-10	10	
2,4-DICHLOROPHENOL	U	ug/L	-10	10	
2,4-DIMETHYLPHENOL	U	ug/L	-20	20	
2,4-DINITROPHENOL	U	ug/L	-50	50	
2,4-DINITROTOLUENE	U	ug/L	-10	10	
2,6-DINITROTOLUENE	U	ug/L	-50	50	
2-CHLORONAPHTHALENE	U	ug/L	-10	10	
2-CHLOROPHENOL	U	ug/L	-10	10	
2-METHYLNAPHTHALENE	U	ug/L	-10	10	
2-METHYLPHENOL	U	ug/L	-10	10	
2-NITROANILINE	U	ug/L	-50	50	
2-NITROPHENOL	U	ug/L	-20	20	
3- & 4-METHYLPHENOL	U	ug/L	-20	20	
3,3-DICHLOROBENZIDINE	U	ug/L	-50	50	
3-NITROANILINE	U	ug/L	-50	50	
4,6-DINITRO-2-METHYLPHENOL	U	ug/L	-50	50	
4-BROMOPHENYL PHENYL ETHER	U	ug/L	-10	10	
4-CHLORO-3-METHYLPHENOL	U	ug/L	-10	10	
4-CHLOROANILINE	U	ug/L	-10	10	
4-CHLOROPHENYL PHENYL ETHER	U	ug/L	-10	10	
4-NITROANILINE	U	ug/L	-50	50	
4-NITROPHENOL	U	ug/L	-50	50	
ACENAPHTHENE	U	ug/L	-10	10	
ACENAPHTHYLENE	U	ug/L	-10	10	
ANILINE	U	ug/L	-50	50	
ANTHRACENE	U	ug/L	-10	10	
AZOBENZENE	U	ug/L	-50	50	
BENZIDINE	U	ug/L	-20	20	
BENZO(A)ANTHRACENE	U	ug/L	-10	10	
BENZO(A)PYRENE	U	ug/L	-10	10	
BENZO(B)FLUORANTHENE	U	ug/L	-10	10	
BENZO(G,H,I)PERYLENE	U	ug/L	-10	10	
BENZO(K)FLUORANTHENE	U	ug/L	-10	10	
BENZOIC ACID	U	ug/L	-50	50	
BENZYL ALCOHOL	U	ug/L	-10	10	
BIS(2-CHLOROETHOXY)METHANE	U	ug/L	-10	10	
BIS(2-CHLOROETHYL) ETHER	U	ug/L	-10	10	
BIS(2-CHLOROISOPROPYL) ETHER	U	ug/L	-10	10	
BIS(2-ETHYLHEXYL) PHTHALATE	U	ug/L	-20	20	
BUTYL BENZYL PHTHALATE	U	ug/L	-10	10	
CHRYSENE	Ü	ug/L	-10	10	
DIBENZO(A,H)ANTHRACENE	U	ug/L	-10	10	
DIBENZOFURAN	U	ug/L	-10	10	
DIETHYLPHTHALATE	U	ug/L	-10	10	
DIMETHYL PHTHALATE	U	ug/L	-10	10	
DI-N-BUTYL PHTHALATE	U	ug/L	-10	10	

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## Stewart Environmental Consultants, Inc. ACZ Project ID: L38809

					_
DI-N-OCTYL PHTHALATE	U	ug/L		-10	10
FLUORANTHENE	U	ug/L		-10	10
FLUORENE	U	ug/L		-10	10
HEXACHLOROBENZENE	U	ug/L		-10	10
HEXACHLOROBUTADIENE	U	ug/L		-10	10
HEXACHLOROCYCLOPENTADIENE	U	ug/L		-20	20
HEXACHLOROETHANE	U	ug/L		-10	10
INDENO(1,2,3-CD)PYRENE	U	ug/L		-10	10
ISOPHORONE	U	ug/L		-10	10
NAPHTHALENE	U	ug/L		-10	10
NITROBENZENE	U	ug/L		-10	10
N-NITROSODIMETHYLAMINE	U	ug/L		-50	50
N-NITROSODI-N-PROPYLAMINE	U	ug/L		-10	10
N-NITROSODIPHENYLAMINE	U	ug/L		-10	10
PENTACHLOROPHENOL	U	ug/L		-50	50
PHENANTHRENE	U	ug/L		-10	10
PHENOL	U	ug/L		-20	20
PYRENE	U	ug/L		-10	10
2,4,6-TRIBROMOPHENOL (sum)		%	77.8	40	125
2-FLUOROBIPHENYL (surr)		%	82.8	50	110
2-FLUOROPHENOL (surr)		%	68.8	54	100
NITROBENZENE-D5 (surr)		%	86.4	40	110
PHENOL-D6 (surr)		%	76.1	47	113
TERPHENYL-D14 (sum)		%	104.7	50	135

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## Organic Extended Qualifier Report

ACZ Project ID: L38809

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L38809-01	WG429249	*All Compounds*	M8270C GC/MS	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		1,4-Dichlorobenzene	M8270C GC/MS	R4	RPD for a spike and spike duplicate exceeded the method or laboratory acceptance limit. At a minimum, one spike recovery met acceptance criteria.
		2-Chlorophenol	M8270C GC/MS	R4	RPD for a spike and spike duplicate exceeded the method or laboratory acceptance limit. At a minimum, one spike recovery met acceptance criteria.

Certification Qualifiers

Stewart Environmental Consultants, Inc.

ACZ Project ID: L38809

GC/MS

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

1,4-Dioxane

M8270C GC/MS

## Sample Receipt

Stewart Environmental Consultants, Inc
--

ACZ Project ID:

L38809

Date Received: 07/28/2017 15:13

L00000

Received By:

Date Printed

					Date Pr	inted:	7/:	28/2017
Receipt Veri	fication			The state of the s		\/F0	NO	
1) Is a foreig	n soil permit incl	ided for appli	rahle samples?			YES	NO	NA X
			ective shipping pa	ners present?		X		
	· ·				10			V
			g procedures such	as GLP protoco	17			X
,	amples NRC lice							Х
			proceed with reque	sted short hold ti	me analyses?	X		
6) Is the Cha	ain of Custody for	m complete a	ind accurate?			X		
7) Were any	changes made t	o the Chain o	f Custody form prio	r to ACZ receivir	ng the samples?		Х	790
Samples/Cor	ntainers	Carle Mil		THE REAL PROPERTY.	THE STATE OF THE PARTY OF THE P	1/1/1/3	PATE	FUE
						YES	NO	NA
8) Are all co	ntainers intact an	d with no leak	s?			Х		
Are all labels on containers and are they intact and legible?								
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?						X		
11) For preserved bottle types, was the pH checked and within limits? 1						Х		
12) Is there	sufficient sample	volume to pe	rform all requested	work?		Х		
13) Is the cu	stody seal intact	on all contain	ers?					Х
14) Are sam	ples that require	zero headspa	ce acceptable?					Χ
15) Are all s	ample containers	appropriate f	or analytical require	ements?		Х		E. Water
16) Is there	an Hg-1631 trip b	lank present?	•					Х
17) Is there	a VOA trip blank	present?						Х
18) Were all	samples receive	d within hold t	time?			Х		
Chain of Cus	stody Related Re	emarks		1000		19895	0 . 2 /3	
Client Conta	ct Remarks	The same of the					35 6 5	
Shipping Co	ntainers		THE STATE OF THE S	THE RESERVE	LI PER LAMEN	5 1 3		4896
	Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?			
	5245	0.7	<=6.0	14	N/A			

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.



## Sample Receipt

Stewart Environmental Consultants, Inc.

ACZ Project ID:

L38809

Date Received: 07/28/2017 15:13

Received By:

Date Printed:

7/28/2017

The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCI preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

(38809



## **CHAIN OF CUSTODY RECORD**

38809 Chain of Custody

Batch

looboob dalad

STEWART ENVIRONMENTAL CONSULTANTS, INC. £38 3801 Automation Way, Suite 200, Fort Collins, CO 80525 Telephone: (970) 226-5500 Facsimile: (

<b>PAGE</b>	OF	

• 1100	CLIENT:			Stratus	Comp	anies - ACZ				Name: James Samplery Signature: 4  Signature: 4		
33 BB 10	SAMPLE Date	COLLECTIO	ON INFO Grab / Comp	CLIENT SA	MPLE IDEN	TIFICATION			QC Report Total No. of Needed Cont.		ANALYSES REQUESTED	
	2.27.17	10:00	G	MW-	19		シロ	4	3	Phenois		
										Total Orga	nic Carbon	
										Method 8270 (a	all normal compounds, including those below)	
											ıtyi Phthalate	
										Bis(2-ethylhexyl) phthalate		
										Di-n-butyl Phthalate		
										Diethyl Phthalate		
					· · · · · · · · · · · · · · · · · · ·					Dimethyl	Phthalate	
		-							Di-n-octyl	Phthalate		
										1,4-Dioxa	ne	
									Benzoic A	Acid		
										Bencyl ald	cohol	
										2-Methylphenol		
Compliance Leaving this	samples may s field blank i	require you t	o report the te	mperature of emperature i	samples as the	ey arrive in the	e laborator	ry. Would yo	ou like the tem	perature of sa	imples recorded upon receipt by the	
RELINQUIST			Received by		Date / Time	REQUESTE	COMPLE	TRON DATE		REPORT TO:	PHONE:	
	VV	14:10	CF	7/201	1410						FAX:	
Relinquished	by		Received by	72917	Date / Time		MATE	N TYPE		CLIENT:		
	`,				7/28/17		WW = wa	IX TYPE	· · · · · ·	ADDRESS:		
CPF	7/27/2	1630	1000		15113	, ,	DW = drir L = Liquid	nking water		CITY, STATE ZII	p.	
Relinquished	by /	Date / Time	Received by		Date / Time	S = s			sludge			
						A = /	Air DPHE.REP		= Solid	INVOICE TO:		
Database En						PWSID#			. : :	ADDRESS:		
						Sai	mple Kit S	ent? Yes:/	No .	CITY, STATE ZII	P:	

August 04, 2017

Report to:

**Trevor Mueller** 

Stewart Environmental Consultants, Inc.

2600 Canton Ct.

Unit C

Fort Collins, CO 80525

cc: Trevor Mueller

Bill to:

Accounts Payable

Stewart Environmental Consultants, Inc.

2600 Canton Ct.

Unit C

Fort Collins, CO 80525

Project ID:

ACZ Project ID: L38457

Trevor Mueller:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on July 14, 2017. This project has been assigned to ACZ's project number, L38457. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L38457. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after September 03, 2017. If the samples are determined to be hazardous, additional charges apply for disposal (typically \$11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

re Wellen







**Inorganic Analytical** Results

Stewart Environmental Consultants, Inc.

Project ID:

Sample ID:

MW-20

ACZ Sample ID: L38457-01

Date Sampled: 07/13/17 14:20

Date Received: 07/14/17

Sample Matrix: Waste Water

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Carbon, total organic	SM5310B	1	15.9		*	mg/L	1	5	08/01/17 11:00	bce
(TOC)										

Arizona license number: AZ0102

Inorganic Reference

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Report Header	r Explanations		Barbara Carallana
Batch	A distinct set of samples analyzed at a specific time		
Found	Value of the QC Type of interest		
Limit	Upper limit for RPD, in %.		
Lower	Lower Recovery Limit, in % (except for LCSS, mg/K	(g)	
MDL	Method Detection Limit. Same as Minimum Reportir	ng Limit unless omitted or eq	ual to the PQL (see comment #5).
	Allows for instrument and annual fluctuations.		
PCN/SCN	A number assigned to reagents/standards to trace to	the manufacturer's certifica	te of analysis
PQL	Practical Quantitation Limit. Synonymous with the E	PA term "minimum level".	
QC	True Value of the Control Sample or the amount add	led to the Spike	
Rec	Recovered amount of the true value or spike added,	in % (except for LCSS, mg/l	<b>(</b> g)
RPD	Relative Percent Difference, calculation used for Dup	olicate QC Types	
Upper	Upper Recovery Limit, in % (except for LCSS, mg/K	g)	
Sample	Value of the Sample of interest		
QC Sample Ty	ypes	THE REAL PROPERTY.	1000 E 1000 B 1000 B 1000
AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Dunlicate

QC Sample Ty	ypes		
AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	LFM	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	LFMD	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	LRB	Laboratory Reagent Blank
ICB	Initial Calibration Blank	MS	Matrix Spike
ICV	Initial Calibration Verification standard	MSD	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	PBS	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	PBW	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	PQV	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	SDL	Serial Dilution

Part of the					
616	Sample	Tunn	EVAL	ana	lions:
12.40	Stelling	HUBARIA S	11.25YA3.24	ભાષ	ALC: N

Blanks Verifies that there is no or minimal contamination in the prep method or calibration procedure.

Control Samples Verifies the accuracy of the method, including the prep procedure.

Duplicates Verifies the precision of the instrument and/or method.

Spikes/Fortified Matrix Determines sample matrix interferences, if any.

Standard Verifies the validity of the calibration.

### ACZ Qualifiers (Qual)

B Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.

H Analysis exceeded method hold time. pH is a field test with an immediate hold time.

L Target analyte response was below the laboratory defined negative threshold.

U The material was analyzed for, but was not detected above the level of the associated value.

The associated value is either the sample quantitation limit or the sample detection limit.

### Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.

(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.

(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.

(4) EPA SW-846. Test Methods for Evaluating Solid Waste.

(5) Standard Methods for the Examination of Water and Wastewater.

### Comment

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.

(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.

(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.

(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.

(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:

http://www.acz.com/public/extquallist.pdf

REP001.03.15.02

ACZ Project ID: L38457

Carbon, total o	rganic (T	OC)	SM5310B										
ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG427972													
WG427972ICV	ICV	08/01/17 11:00	WI170707-1	100		104	mg/L	104	90	110			
WG427972ICB	ICB	08/01/17 11:00				U	mg/L		-3	3			
WG427972LFB	LFB	08/01/17 11:00	WI170531-4	50		49.2	mg/L	98	90	110			
L38390-01DUP	DUP	08/01/17 11:00			87.3	91.6	mg/L				5	20	R
L38391-01AS	AS	08/01/17 11:00	WI170531-4	1000	29.9	1020	mg/L	99	90	110			

Inorganic Extended
Qualifier Report

Stewart Environmental Consultants, Inc.

ACZ Project ID: L38457

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L38457-01	NG427972	Carbon, total organic (TOC)	SM5310B	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated
					sample is too low for accurate evaluation (< 10x MDI.)

## Organic Analytical Results

Stewart Environmental Consultants, Inc.

Project ID:

Sample ID: MW-20

ACZ Sample ID: L38457-01

Date Sampled: 07/13/17 14:20

Date Received: 07/14/17

Sample Matrix: Waste Water

## Base Neutral Acid Extractables by GC/MS

Analysis Method: M8270C GC/MS

Extract Method: M3520C

Workgroup: WG427395

Analyst: itm

Extract Date: 07/17/17 13:42 Analysis Date: 07/24/17 15:55

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
1,2,4-Trichlorobenzene	120-82-1		U	0.93	*	ug/L	2	9
1,2-Dichlorobenzene	95-50-1		U	0.93	*	ug/L	2	9
1,3-Dichlorobenzene	541-73-1		U	0.93	*	ug/L	2	9
1,4-Dichlorobenzene	106-46-7		U	0.93	*	ug/L	2	9
1,4-Dioxane	123-91-1		U	0.93	*	ug/L	2	9
2,4,5-Trichlorophenol	95-95-4		U	0.93	*	ug/L	9	50
2,4,6-Trichlorophenol	88-06-2		U	0.93	*	ug/L	2	9
2,4-Dichlorophenol	120-83-2		U	0.93	*	ug/L	2	9
2,4-Dimethylphenol	105-67-9		U	0.93	*	ug/L	4	20
2,4-Dinitrophenol	51-28-5		U	0.93	*	ug/L	20	50
2,4-Dinitrotoluene	121-14-2		U	0.93	*	ug/L	2	9
2,6-Dinitrotoluene	606-20-8		U	0.93	*	ug/L	9	50
2-Chloronaphthalene	91-58-7		U	0.93	*	ug/L	2	9
2-Chlorophenol	95-57-8		U	0.93	*	ug/L	2	9
2-Methylnaphthalene	91-57-6		U	0.93	*	ug/L	2	9
2-Methylphenol	95-48-7		U	0.93	*	ug/L	2	9
2-Nitroaniline	88-74-4		U	0.93	*	ug/L	9	50
2-Nitrophenol	88-75-5		U	0.93	*	ug/L	4	20
3- & 4-Methylphenol	1319-77-3		U	0.93	*	ug/L	4	20
3,3-Dichlorobenzidine	91-94-1		U	0.93	*	ug/L	20	50
3-Nitroaniline	99-09-2		U	0.93	*	ug/L	9	50
4,6-Dinitro-2-methylphenol	534-52-1		U	0.93	*	ug/L	9	50
4-Bromophenyl phenyl ether	101-55-3		U	0.93	*	ug/L	2	9
4-Chloro-3-methylphenol	59-50-7		U	0.93	*	ug/L	2	9
4-Chloroaniline	106-47-8		U	0.93	*	ug/L	2	9
4-Chlorophenyl phenyl ether	7005-72-3		U	0.93	*	ug/L	2	9
4-Nitroaniline	100-01-6		U	0.93	*	ug/L	9	50
4-Nitrophenol	100-02-07		U	0.93	*	ug/L	9	50
Acenaphthene	83-32-9		U	0.93	*	ug/L	2	9
Acenaphthylene	208-96-8		U	0.93	*	ug/L	2	9
Aniline	62-53-3		U	0.93	*	ug/L	9	50
Anthracene	120-12-7		U	0.93	*	ug/L	2	9
Azobenzene	103-33-3		U	0.93	*	ug/L	9	50
Benzidine	92-87-5		U	0.93	*	ug/L	4	20
Benzo(a)anthracene	56-55-3		U	0.93	*	ug/L	2	9
Benzo(a)pyrene	50-32-8		U	0.93	*	ug/L	2	9
Benzo(b)fluoranthene	205-99-2		U	0.93	*	ug/L	2	9
Benzo(g,h,i)perylene	191-24-2	3	J	0.93	*	ug/L	2	9
Benzo(k)fluoranthene	207-08-9		U	0.93	*	ug/L	2	9
Benzoic Acid	65-85-0	20	J	0.93	*	ug/L	20	50
Benzyl alcohol	100-51-6		U	0.93	*	ug/L	2	9

REPOR.01.01.01.02

L38457-1708041330

<sup>\*</sup> Please refer to Qualifier Reports for details.

(800) 334-5493

**Stewart Environmental Consultants, Inc.** 

Project ID:

Sample ID: MW-20 ACZ Sample ID: L38457-01

Date Sampled: 07/13/17 14:20

Date Received: 07/14/17

			Sa	mple Matri	x: 1	Naste V	Vater	
Bis(2-chloroethoxy)methane	111-91-1		U	0.93	*	ug/L	2	9
Bis(2-chloroethyl) ether	111-44-4		U	0.93	*	ug/L	2	9
Bis(2-chloroisopropyl) ether	108-60-1		U	0.93	*	ug/L	2	9
Bis(2-ethylhexyl) phthalate	117-81-7		U	0.93	*	ug/L	4	20
Butyl benzyl phthalate	85-68-7		U	0.93	*	ug/L	2	9
Chrysene	218-01-9		U	0.93	*	ug/L	2	9
Dibenzo(a,h)anthracene	53-70-3		U	0.93	*	ug/L	2	9
Dibenzofuran	132-64-9		U	0.93	*	ug/L	2	9
Diethylphthalate	84-66-2		U	0.93	*	ug/L	2	9
Dimethyl phthalate	131-11-3		U	0.93	*	ug/L	2	9
Di-n-butyl phthalate	84-74-2		U	0.93	*	ug/L	2	9
Di-n-octyl phthalate	117-84-0		U	0.93	*	ug/L	2	9
Fluoranthene	206-44-0		U	0.93	*	ug/L	2	9
Fluorene	86-73-7		U	0.93	*	ug/L	2	9
Hexachlorobenzene	118-74-1		U	0.93	*	ug/L	2	9
Hexachlorobutadiene	87-68-3		U	0.93	*	ug/L	2	9
Hexachlorocyclopentadiene	77-47-4		U	0.93	*	ug/L	4	20
Hexachloroethane	67-72-1		U	0.93	*	ug/L	2	9
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.93	*	ug/L	2	9
Isophorone	78-59-1		U	0.93	*	ug/L	2	9
Naphthalene	91-20-3		U	0.93	*	ug/L	2	9
Nitrobenzene	98-95-3		U	0.93	*	ug/L	2	9
N-Nitrosodimethylamine	62-75-9		U	0.93	*	ug/L	9	50
N-Nitrosodi-n-propylamine	621-64-7		U	0.93	*	ug/L	2	9
N-Nitrosodiphenylamine	86-30-6		U	0.93	*	ug/L	2	9
Pentachlorophenol	87-86-5		U	0.93	90	ug/L	9	50
Phenanthrene	85-01-8		U	0.93	*	ug/L	2	9
Phenol	108-95-2		U	0.93	*	ug/L	4	20
Pyrene	129-00-0		U	0.93	*	ug/L	2	9
Surrogate Recoveries	CAS	% Recovery	FIN 13	Dilution	XQ	Units	LCL	UCL
2,4,6-Tribromophenol	118-79-6	92.9		0.93	*	%	40	125
2-Fluorobiphenyl	321-60-8	77.7		0.93	*	%	50	110
2-Fluorophenol	367-12-4	62.3		0.93	*	%	54	100
Nitrobenzene-d5	4165-60-0	74.1		0.93	*	%	40	110
Phenol-d6	13127-88-3	72		0.93	*	%	47	113
Terphenyl-d14	1718-51-0	74.7		0.93	*	%	50	135

Arizona license number: AZ0102

## Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Organic Reference

Report		

Batch	A distinct set of samples analyzed at a specific time
-------	---

Found Value of the QC Type of interest

Limit Upper limit for RPD, in %.

Lower Lower Recovery Limit, in % (except for LCSS, mg/Kg)

LCL Lower Control Limit

MDL Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #4)

Allows for instrument and annual fluctuations.

PCN/SCN A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis

PQL Practical Quantitation Limit. Synonymous with the EPA term "minimum level".

QC True Value of the Control Sample or the amount added to the Spike

Rec Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)

RPD Relative Percent Difference, calculation used for Duplicate QC Types

Upper Upper Recovery Limit, in % (except for LCSS, mg/Kg)

UCL Upper Control Limit

Sample Value of the Sample of interest

### QC Sample Types

SURR	Surrogate	LFM	Laboratory Fortified Matrix
INTS	Internal Standard	LFMD	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	LRB	Laboratory Reagent Blank
LCSS	Laboratory Control Sample - Soil	MS/MSD	Matrix Spike/Matrix Spike Duplicate
LCSW	Laboratory Control Sample - Water	PBS	Prep Blank - Soil
LFB	Laboratory Fortified Blank	PBW	Prep Blank - Water

### QC Sample Type Explanations

Blanks Verifies that there is no or minimal contamination in the prep method or calibration procedure.

Control Samples Verifies the accuracy of the method, including the prep procedure.

Duplicates Verifies the precision of the instrument and/or method. Spikes/Fortified Matrix Determines sample matrix interferences, if any.

### ACZ Qualifiers (Qual)

B Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.

O Analyte concentration is estimated due to result exceeding calibration range.

H Analysis exceeded method hold time. pH is a field test with an immediate hold time.

J Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.

L Target analyte response was below the laboratory defined negative threshold.

U The material was analyzed for, but was not detected above the level of the associated value.

The associated value is either the sample quantitation limit or the sample detection limit.

### Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.

(2) EPA 600/4-90/020. Methods for the Determination of Organic Compounds in Drinking Water (I), July 1990.

(3) EPA 600/R-92/129. Methods for the Determination of Organic Compounds in Drinking Water (II), July 1990.

(4) EPA SW-846. Test Methods for Evaluating Solid Waste.

(5) Standard Methods for the Examination of Water and Wastewater.

### Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.

(2) Excluding Oil & Grease, solid & biological matrices for organic analyses are reported on a wet weight basis.

(3) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier

associated with the result.

(4) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:

http://www.acz.com/public/extquallist.pdf

REP002.03.15.02

ACZ Project ID: L38457

## **Base Neutral Acid Extractables by GC/MS**

M8270C GC/MS

### WG427395

MS	Sample ID: I	_38390-01MS		PCN/S	CN: OPBI	NA170523	3-1	Analy	/zed:	07/21	/17 15:50
Compound	The state of the state of	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
1,2,4-TRICHLOROBE	NZENE	50013	υ	25	ug/L	53.0	35	105			
1,4-DICHLOROBENZ	ENE	50013	U	28.6	ug/L	61.0	30	100			
2,4-DINITROTOLUE	NE	50013	U	34.9	ug/L	74.0	50	120			
2-CHLOROPHENOL		75080	U	50.1	ug/L	71.0	35	105			
4-CHLORO-3-METH	YLPHENOL	75040	U	61.1	ug/L	86.0	45	110			
4-NITROPHENOL		75120	U	67	ug/L	95.0	0	125			
ACENAPHTHENE		50007	U	24.5	ug/L	52.0	45	110			
N-NITROSODI-N-PR	OPYLAMINE	50027	U	35.7	ug/L	76.0	35	130			
PENTACHLOROPHE	NOL	75040	U	31	ug/L	44.0	40	115			
PHENOL		75060	U	52.7	ug/L	74.0	0	115			
PYRENE		50003	U	U	ug/L	0.0	50	130			M2
2,4,6-TRIBROMOPHI	ENOL (surr)				%	77.9	40	125			
2-FLUOROBIPHENY	L (surr)				%	61.0	50	110			
2-FLUOROPHENOL	(surr)				%	71.0	54	100			
NITROBENZENE-D5	(surr)				%	79.2	40	110			
PHENOL-D6 (surr)					%	83.8	47	113			
TERPHENYL-D14 (se	JIT)				%	10.1	50	135			S6

DUP	Sample ID: L38391-01	DUP						Analy	/zed:	07/21	/17 16:57
Compound		QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
1,2,4-TRICHLOROBENZENE			U	U	ug/L				0	20	RA
1,2-DICHLOROBENZENE			U	U	ug/L				0	20	RA
1,3-DICHLOROBENZENE			U	U	ug/L				0	20	RA
1,4-DICHLOROBENZENE			U	4	ug/L				200	20	RA
1,4-DIOXANE			12	12.4	ug/L				3	20	RA
2,4,5-TRICHLOROPHENOL			U	U	ug/L				0	20	RA
2,4,6-TRICHLOROPHENOL			U	U	ug/L				0	20	RA
2,4-DICHLOROPHENOL			U	U	ug/L				0	20	RA
2,4-DIMETHYLPHENOL			U	U	ug/L				0	20	RA
2,4-DINITROPHENOL			U	U	ug/L				0	20	RA
2,4-DINITROTOLUENE			U	U	ug/L				0	20	RA
2,6-DINITROTOLUENE			U	U	ug/L				0	20	RA
2-CHLORONAPHTHALENE			U	U	ug/L				0	20	RA
2-CHLOROPHENOL			U	U	ug/L				0	20	RA
2-METHYLNAPHTHALENE			U	U	ug/L				0	20	RA
2-METHYLPHENOL			U	U	ug/L				0	20	RA
2-NITROANILINE			U	U	ug/L				0	20	RA
2-NITROPHENOL			U	U	ug/L				0	20	RA
3- & 4-METHYLPHENOL			U	U	ug/L				0	20	RA
3,3-DICHLOROBENZIDINE			U	U	ug/L				0	20	RA
3-NITROANILINE			U	U	ug/L				0	20	RA
4,6-DINITRO-2-METHYLPHE	NOL		U	U	ug/L				0	20	RA
4-BROMOPHENYL PHENYL	ETHER		U	U	ug/L				0	20	RA
4-CHLORO-3-METHYLPHEN	OL		U	U	ug/L				0	20	RA

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ACZ Project ID: L38457

4-CHLOROANILINE	U	U	ug/L				0	20	
4-CHLOROPHENYL PHENYL ETHER	U	U	ug/L				0	20	
4-NITROANILINE	U	U	ug/L				0	20	
4-NITROPHENOL	U	U	ug/L				0	20	
ACENAPHTHENE	U	U	ug/L				0	20	
ACENAPHTHYLENE	U	U	ug/L				0	20	
ANILINE	U	U	ug/L				0	20	
ANTHRACENE	U	U	ug/L				0	20	
AZOBENZENE	U	U	ug/L				0	20	
BENZIDINE	U	U	ug/L				0	20	
BENZO(A)ANTHRACENE	U	U	ug/L				0	20	
BENZO(A)PYRENE	U	U	ug/L				0	20	
BENZO(B)FLUORANTHENE	U	U	ug/L				0	20	
BENZO(G,H,I)PERYLENE	U	U	ug/L				0	20	
BENZO(K)FLUORANTHENE	U	U	ug/L				0	20	
BENZOIC ACID	U	U	ug/L				0	20	
BENZYL ALCOHOL	U	U	ug/L				0	20	
BIS(2-CHLOROETHOXY)METHANE	U	U	ug/L				0	20	
BIS(2-CHLOROETHYL) ETHER	U	U	ug/L				0	20	
BIS(2-CHLOROISOPROPYL) ETHER	U	U	ug/L				0	20	
BIS(2-ETHYLHEXYL) PHTHALATE	U	U	ug/L				0	20	
BUTYL BENZYL PHTHALATE	U	U	ug/L				0	20	
CHRYSENE	U	U	ug/L				0	20	
DIBENZO(A,H)ANTHRACENE	U	U	ug/L				0	20	
DIBENZOFURAN	U	U	ug/L				0	20	
DIETHYLPHTHALATE	U	U	ug/L				0	20	
DIMETHYL PHTHALATE	U	Ū	ug/L				0	20	
DI-N-BUTYL PHTHALATE	U	U	ug/L				0	20	
DI-N-OCTYL PHTHALATE	U	U	ug/L				0	20	
FLUORANTHENE	U	Ų	ug/L				0	20	
FLUORENE	U	U	ug/L				0	20	
HEXACHLOROBENZENE	U	U	ug/L				0	20	
HEXACHLOROBUTADIENE	U	U	ug/L				0	20	
HEXACHLOROCYCLOPENTADIENE	U	U	ug/L				0	20	
HEXACHLOROETHANE	U	U	ug/L				0	20	
INDENO(1,2,3-CD)PYRENE	U	U	ug/L				0	20	
ISOPHORONE	U	U	ug/L				0	20	
NAPHTHALENE	U	U	ug/L				0	20	
NITROBENZENE	U	U	ug/L				0	20	
N-NITROSODIMETHYLAMINE	U	U	ug/L				0	20	
N-NITROSODI-N-PROPYLAMINE	U	U	ug/L				0	20	
N-NITROSODIPHENYLAMINE	U	U	ug/L				0	20	
PENTACHLOROPHENOL	U	U	ug/L				0	20	
PHENANTHRENE	U	U	ug/L				0	20	
PHENOL	U	U	ug/L				0	20	
PYRENE	U	U	ug/L				0	20	
2,4,6-TRIBROMOPHENOL (surr)			%	94.5	40	125			
2-FLUOROBIPHENYL (surr)			%	76.0	50	110			

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## ACZ Project ID: L38457

NITROBENZENE-D5 (surr)	%	77.3	40	110	
PHENOL-D6 (surr)	%	83.6	47	113	
TERPHENYL-D14 (surr)	%	20.4	50	135	S6

LCSW Samp	ple ID: WG426931LCSW	PCN/S	CN: OPB	NA170523	i-1	Analya	zed:	07/21/	17 14:10
Compound	QC	Sample Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
1,2,4-TRICHLOROBENZENE	50013	33,2	ug/L	66.0	35	105			
1,4-DICHLOROBENZENE	50013	31.7	ug/L	63.0	30	100			
2,4-DINITROTOLUENE	50013	43.3	ug/L	87.0	50	120			
2-CHLOROPHENOL	75080	53.5	ug/L	71.0	35	105			
4-CHLORO-3-METHYLPHENOL	75040	58.4	ug/L	78.0	45	110			
4-NITROPHENOL	75120	59	ug/L	79.0	0	125			
ACENAPHTHENE	50007	38	ug/L	76.0	45	110			
N-NITROSODI-N-PROPYLAMINE	50027	38.4	ug/L	77.0	35	130			
PENTACHLOROPHENOL	75040	55	ug/L	73.0	40	115			
PHENOL	75060	53.4	ug/L	71.0	0	115			
PYRENE	50003	41.7	ug/L	83.0	50	130			
2,4,6-TRIBROMOPHENOL (surr)			%	90.8	40	125			
2-FLUOROBIPHENYL (surr)			%	79.8	50	110			
2-FLUOROPHENOL (surr)			%	72.8	54	100			
NITROBENZENE-D5 (surr)			%	82.1	40	110			
PHENOL-D6 (surr)			%	80.5	47	113			
TERPHENYL-D14 (surr)			%	95.3	50	135			

LCSWD Sample II		WG426931LCSW	D	PCN/SCN: OPBNA170523-1				Analy	yzed:	07/21/17 14:44	
Compound	FIELD S	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
1,2,4-TRICHLOROBENZ	ENE	50013		35.1	ug/L	70.0	35	105	6	20	
1,4-DICHLOROBENZEN	E	50013		34.5	ug/L	69.0	30	100	8	20	
2,4-DINITROTOLUENE		50013		44.1	ug/L	88.0	50	120	2	20	
2-CHLOROPHENOL		75080		56.5	ug/L	75.0	35	105	5	20	
4-CHLORO-3-METHYLP	HENOL	75040		60	ug/L	80.0	45	110	3	20	
4-NITROPHENOL		75120		58	ug/L	77.0	0	125	2	20	
ACENAPHTHENE		50007		40.4	ug/L	81.0	45	110	6	20	
N-NITROSODI-N-PROPY	LAMINE	50027		40.6	ug/L	81.0	35	130	6	20	
PENTACHLOROPHENO	L	75040		56	ug/L	75.0	40	115	2	20	
PHENOL		75060		54.6	ug/L	73.0	0	115	2	20	
PYRENE		50003		42.6	ug/L	85.0	50	130	2	20	
2,4,6-TRIBROMOPHENO	L (surr)				%	88.8	40	125			
2-FLUOROBIPHENYL (s	urr)				%	80.6	50	110			
2-FLUOROPHENOL (sur	r)				%	71.6	54	100			
NITROBENZENE-D5 (su	Tr)				%	82.5	40	110			
PHENOL-D6 (surr)					%	77.1	47	113			
TERPHENYL-D14 (surr)					%	93.7	50	135			

PBW	Sample ID: WG426931PBW								Analyzed:		07/21/17 13:37	
Compound	3.86	WE FOR A	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
1,2,4-TRICHLOROBENZENI					U	ug/L		-10	10			
1,2-DICHLOROBENZENE					U	ug/L		-10	10			
1,3-DICHLOROBENZENE					U	ug/L		-10	10			

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ACZ Project ID: L38457

1,4-DICHLOROBENZENE	U	ug/L	-10	10
1,4-DIOXANE	U	ug/L	-10	10
2,4,5-TRICHLOROPHENOL	U	ug/L	-50	50
2,4,6-TRICHLOROPHENOL	U	ug/L	-10	10
2,4-DICHLOROPHENOL	U	ug/L	-10	10
2,4-DIMETHYLPHENOL	U	ug/L	-20	20
2,4-DINITROPHENOL	U	ug/L	-50	50
2,4-DINITROTOLUENE	U	ug/L	-10	10
2,6-DINITROTOLUENE	U	ug/L	-50	50
2-CHLORONAPHTHALENE	U	ug/L	-10	10
2-CHLOROPHENOL	U	ug/L	-10	10
2-METHYLNAPHTHALENE	U	ug/L	-10	10
2-METHYLPHENOL	U	ug/L	-10	10
2-NITROANILINE	U	ug/L	-50	50
2-NITROPHENOL	U	ug/L	-20	20
3- & 4-METHYLPHENOL	U	ug/L	-20	20
3,3-DICHLOROBENZIDINE	U	ug/L	-50	50
3-NITROANILINE	U	ug/L	-50	50
4,6-DINITRO-2-METHYLPHENOL	U	ug/L	-50	50
4-BROMOPHENYL PHENYL ETHER	U	ug/L	-10	10
4-CHLORO-3-METHYLPHENOL	U	ug/L	-10	10
4-CHLOROANILINE	U	ug/L	-10	10
4-CHLOROPHENYL PHENYL ETHER	U	ug/L	-10	10
4-NITROANILINE	U	ug/L	-50	50
4-NITROPHENOL	U	ug/L	-50	50
ACENAPHTHENE	U	ug/L	-10	10
ACENAPHTHYLENE	U	ug/L	-10	10
ANILINE	U	ug/L	-50	50
ANTHRACENE	U	ug/L	-10	10
AZOBENZENE	U	ug/L	-50	50
BENZIDINE	U	ug/L	-20	20
BENZO(A)ANTHRACENE	U	ug/L	-10	10
BENZO(A)PYRENE	U	ug/L	-10	10
BENZO(B)FLUORANTHENE	U	ug/L	-10	10
BENZO(G,H,I)PERYLENE	U	ug/L	-10	10
BENZO(K)FLUORANTHENE	U	ug/L	-10	10
BENZOIC ACID	U	ug/L	-50	50
BENZYL ALCOHOL	U	ug/L	-10	10
BIS(2-CHLOROETHOXY)METHANE	U	ug/L	-10	10
BIS(2-CHLOROETHYL) ETHER	U	ug/L	-10	10
BIS(2-CHLOROISOPROPYL) ETHER	U	ug/L	-10	10
BIS(2-ETHYLHEXYL) PHTHALATE	U	ug/L	-20	20
BUTYL BENZYL PHTHALATE	U	ug/L	-10	10
CHRYSENE	U	ug/L	-10	10
DIBENZO(A,H)ANTHRACENE	U	ug/L	-10	10
DIBENZOFURAN	U	ug/L	-10	10
DIETHYLPHTHALATE	U	ug/L ug/L	-10	10
DIMETHYL PHTHALATE	U	ug/L	-10	10
DI-N-BUTYL PHTHALATE	U	ug/L	-10	10

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Stewart Environmental Consultants, Inc.

ACZ Project ID: L38457

DI-N-OCTYL PHTHALATE	U	ug/L		-10	10
FLUORANTHENE	U	ug/L		-10	10
FLUORENE	U	ug/L		-10	10
HEXACHLOROBENZENE	U	ug/L		-10	10
HEXACHLOROBUTADIENE	U	ug/L		-10	10
HEXACHLOROCYCLOPENTADIENE	U	ug/L		-20	20
HEXACHLOROETHANE	U	ug/L		-10	10
INDENO(1,2,3-CD)PYRENE	U	ug/L		-10	10
ISOPHORONE	U	ug/L		-10	10
NAPHTHALENE	U	ug/L		-10	10
NITROBENZENE	U	ug/L		-10	10
N-NITROSODIMETHYLAMINE	U	ug/L		-50	50
N-NITROSODI-N-PROPYLAMINE	U	ug/L		-10	10
N-NITROSODIPHENYLAMINE	U	ug/L		-10	10
PENTACHLOROPHENOL	U	ug/L		-50	50
PHENANTHRENE	U	ug/L		-10	10
PHENOL	U	ug/L		-20	20
PYRENE	U	ug/L		-10	10
2,4,6-TRIBROMOPHENOL (surr)		%	77.4	40	125
2-FLUOROBIPHENYL (surr)		%	74.9	50	110
2-FLUOROPHENOL (surr)		%	71.1	54	100
NITROBENZENE-D5 (surr)		%	77.2	40	110
PHENOL-D6 (surr)		%	77.3	47	113
TERPHENYL-D14 (surr)		%	91.2	50	135

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# Organic Extended Qualifier Report

ACZ Project ID: L38457

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L38457-01	WG427395	*All Compounds*	M8270C GC/MS		Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Pyrene	M8270C GC/MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.

Certification Qualifiers

Stewart Environmental Consultants, Inc.

ACZ Project ID: L38457

GC/MS

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

1,4-Dioxane

M8270C GC/MS



# Sample Receipt

Ctarrant	Envisonme	mtal Car	oultonto.	Inc
Stewart	Environme	ental Cor	isuitants.	inc.

ACZ Project ID:

L38457

Date Received: 07/14/2017 10:31

Received By:

Date Printed:

7/14/2017

					Date	iiitea.	" "	17/201
Receipt Verific	ation			E-PANALET,	Marie Talle	L. Phil	Section 1	Wall fr
						YES	NO	NA
1) Is a foreign	soil permit inclu	ided for appli	cable samples?					Х
2) Is the Chain	of Custody for	m or other dir	ective shipping pa	pers present?		Х		
3) Does this pr	oject require s	oecial handlin	g procedures such	as CLP protoco	l?			X
4) Are any sam	nples NRC licer	nsable materi	al?					Х
5) If samples a	re received pas	st hold time, p	proceed with reque	sted short hold ti	me analyses?	Х		
6) Is the Chain	of Custody for	m complete a	nd accurate?			Х		
7) Were any ch	nanges made to	o the Chain o	f Custody form pric	or to ACZ receivir	ng the samples?		Х	NETS.
amples/Conta	iners	A BURGA				6 6 3	17 15 16	199
						YES	NO	NA
8) Are all conta	ainers intact an	d with no leak	ks?			Х		E TO
9) Are all labels	s on containers	and are they	intact and legible?	?		Х		
10) Do the sam	nple labels and	Chain of Cus	stody form match fo	or Sample ID, Da	te, and Time?	X		
11) For present	ved bottle types	s, was the pH	checked and withi	n limits? 1		X		
12) Is there suf	fficient sample	volume to per	rform all requested	work?		X		4
13) Is the custo	ody seal intact	on all contain	ers?					Х
14) Are sample	es that require a	zero headspa	ce acceptable?					Х
15) Are all sam	ple containers	appropriate f	or analytical require	ements?		Χ		TO BE
16) Is there an	Hg-1631 trip b	lank present?	•					Х
17) Is there a V	/OA trip blank ı	oresent?						Х
18) Were all sa	amples receive	d within hold t	time?			Х		
Chain of Custo	dy Related Re	marks				1873	T Shi sa	
Client Contact	Remarks	179537	TO STATE OF				Ed to	3.5
Shipping Cont	ainers		19 15 19 12			125-72	10-16-1	17724
40 1000	Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?			
	3226	0.7	<=6.0	13	N/A			

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.



# Sample Receipt

Stewart Environmental Consultants, Inc.

ACZ Project ID:

L38457

Date Received: 07/14/2017 10:31

Received By:

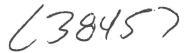
**Date Printed:** 

7/14/2017

<sup>1</sup> The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

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## **CHAIN OF CUSTODY RECORD**

STEWART ENVIRONMENTAL CONSULTANTS, INC. 3801 Automation Way, Suite 200, Fort Collins, CO 80525

## Batch:

Telephone:	(970)	226-550
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Facsimile: ( PAGE \_\_\_\_ OF \_\_\_

	CLIENT:			Stratus	Comp	anies -	ACZ			Name:_\	SAMPLER SUCS STELJETT
Sample No.	SAMPLE	COLLECTIO	N INFO				Matrix	QC Report	Total No. of	Signature:	And And
	Date	Time	Grab / Comp	CLIENT SA	MPLE IDEN	TIFICATION	Type	Needed	Cont.		ANALYSES REQUESTED
	7.13.17	14:20	G	HW.	20		ww		3	Method 8270 (	(all normal compounds, including those below)
										Total Orga	anic Carbon
											utyl Phthalate
											ylhexyl) phthalate
											i Phthalate
										Diethyl Pl	hthalate
										Dimethyl	Phthalate
										Di-n-octy	l Phthalate
										1,4-Dioxa	ne
										Benzoic A	Acid
										Bencyl al	cohol
										2-Methylp	
Compliance	eamplesine) sijeld blanti	ក់ខ្ញុំព្រៃស្វាល ការបើស្វាល	Necotal reservations		amples as di riotire que	ey arriye, in th ed.	e laborator	World ve	v ike belen	e ettra o	amples recorded upon receipt by the
RELINQUISH	HED BY	DATE / TIME 7-13-17	Received by		Date / Time	REQUESTE	COMPLE	T ONIDATE	** ***********************************	REPORT TO:	PHONE:
10	3	15:50		7/13/1	1550					CLIENT:	FAX:
Relinquished	by	Date / Time		777	Date / Time		MATRI	X TYPE	40.	CLICITY.	
1975	7/1	16:30	101	1	1031		WW = wa	25-18-54-1-15-11-16-5-3-2-11-16-7-1		ADDRESS:	X (
Relinquished	///3//7	Date / Time	Received by	4	Date / Time		L = Liquid oil		sludge	CITY, STATE ZI	P:
, tomiquionou	-,	53.07 11110				A=/	Air	SD =	Solid	INVOICE TO:	
Database En			Date			PWSID#		100		ADDRESS:	****
						Sai	mple Kit Se	nt? Yes /	No	CITY, STATE ZI	P:



THE LEADER IN ENVIRONMENTAL TESTING

# **ANALYTICAL REPORT**

TestAmerica Laboratories, Inc. TestAmerica Denver 4955 Yarrow Street Arvada, CO 80002

Tel: (303)736-0100

TestAmerica Job ID: 280-99137-1
Client Project/Site: Analytical Testing

For:

Stewart Environmental Consultants Inc 748 Whalers Way Unit 210 Fort Collins, Colorado 80525

Attn: Mr. Trevor Mueller

Stephanie Rothmeyer

Authorized for release by: 7/19/2017 10:54:48 AM

Stephanie Rothmeyer, Project Manager I (303)736-0182

stephanie.rothmeyer@testamericainc.com

LINKS

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Have a Question?



Visit us at: www.testamericainc.com The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

# 2

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## **Definitions/Glossary**

Client: Stewart Environmental Consultants Inc

Relative Error Ratio (Radiochemistry)

Toxicity Equivalent Factor (Dioxin)

Toxicity Equivalent Quotient (Dioxin)

Reporting Limit or Requested Limit (Radiochemistry)

Relative Percent Difference, a measure of the relative difference between two points

Project/Site: Analytical Testing

TestAmerica Job ID: 280-99137-1

### Qualifiers

#### **GC/MS VOA**

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	LCS or LCSD is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

## Glossary

RER

RPD TEF

TEQ

RL

Abbreviation	These commonly used abbreviations may or may not be present in this report.
n	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control

#### **Case Narrative**

Client: Stewart Environmental Consultants Inc

Project/Site: Analytical Testing

TestAmerica Job ID: 280-99137-1

Job ID: 280-99137-1

Laboratory: TestAmerica Denver

**Narrative** 

## **CASE NARRATIVE**

**Client: Stewart Environmental Consultants Inc** 

**Project: Analytical Testing** 

**Report Number: 280-99137-1** 

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

#### RECEIPT

The samples were received on 7/12/2017 at 3:15 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.7° C.

Three of three HCl preserved VOA vials requesting 8260B VOCs analysis for sample MW-15 (280-99137-2) were received with a headspace bubble greater than 6mm in diameter. It can be noted that analysis results may be biased low due to headspace. The client was notified on 7/13/17.

Three of six HCl preserved VOA vials requesting 8260B VOCs analysis for the following sample and MS/MSD were received with a headspace bubble greater than 6mm in diameter: MW-16 (280-99137-7), MW-16 (280-99137-7[MS]) and MW-16 (280-99137-7[MSD]). Sufficient non-biased sample volume was received to perform the requested analysis. However, re-analysis may be biased low if requested or required due to headspace. The client was notified on 7/13/17.

The laboratory received a total of six HCl preserved VOA vials for the following sample, however no MS/MSD was requested on the Chain-of-Custody: MW-16 (280-99137-7). Per the extra volume received, a MS/MSD was logged for the parent sample for 8260B - VOC analysis. The client was notified on 7/13/17.

#### **VOLATILE ORGANIC COMPOUNDS (GC-MS)**

Samples MW-6 (280-99137-1), MW-15 (280-99137-2), MW-11 (280-99137-3), MW-3 (280-99137-4), MW-12 (280-99137-5), MW-1 (280-99137-6) and MW-16 (280-99137-7) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 07/17/2017.

2-Pentanone failed the recovery criteria high for LCS 280-380948/4 and LCSD 280-380948/5. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Trichloroethene failed the recovery criteria low for the MS of sample MW-16 (280-99137-7) in batch 280-380948. 4-Isopropyltoluene exceeded the RPD limit for the MSD of sample MW-16 (280-99137-7) in batch 280-380948. The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount. Refer to the QC report for details.

Samples MW-12 (280-99137-5)[2X] and MW-16 (280-99137-7)[100X] required dilution prior to analysis to bring the concentration of target analytes within the calibration range. The reporting limits have been adjusted accordingly.

The continuing calibration verification (CCV) associated with batch 380948 recovered above the upper control limit for Chloromethane and/or Dichlorodifluoromethane. The bias is high and the samples associated with this CCV were non-detect for the affected analytes;

TestAmerica Denver 7/19/2017

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## **Case Narrative**

Client: Stewart Environmental Consultants Inc

Project/Site: Analytical Testing

TestAmerica Job ID: 280-99137-1

Job ID: 280-99137-1 (Continued)

Laboratory: TestAmerica Denver (Continued)

therefore, the data have been reported.

The following samples were received in HCl acid-preserved vials with an expected pH<2, but an observed pH of ~3 and ~7, respectively: MW-12 (280-99137-5), MW-16 (280-99137-7). Sample #5 was analyzed with 7 days of being sampled, but sample #7 (MS/MSD) was not.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

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## **Detection Summary**

Client: Stewart Environmental Consultants Inc

Project/Site: Analytical Testing

Client Sample ID: MW-6

TestAmerica Job ID: 280-99137-1

Lab Sample ID: 280-99137-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	0.50		1.0		ug/L	1	_	8260B	Total/NA
1,2-Dichloroethene, Total	1.6		1.0		ug/L	1		8260B	Total/NA
1,4-Dichlorobenzene	1.2		1.0		ug/L	1		8260B	Total/NA
Acetone	4.1	J	10	1.9	ug/L	1		8260B	Total/NA
Benzene	0.37	J	1.0	0.16	-	1		8260B	Total/NA
cis-1,2-Dichloroethene	1.6		1.0	0.15	ug/L	1		8260B	Total/NA
Dichlorodifluoromethane	0.81	J	2.0	0.31	ug/L	1		8260B	Total/NA
Tetrachloroethene	0.55	J	1.0	0.20	ug/L	1		8260B	Total/NA
Trichloroethene	0.60	J	1.0	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	2.2		1.0	0.10	ug/L	1		8260B	Total/NA
Client Sample ID: MW-15						Lab S	aı	mple ID:	280-99137-
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
4-Methyl-2-pentanone (MIBK)	1.9	J	5.0	0.98	ug/L	1	_	8260B	Total/NA
Acetone	42		10	1.9	ug/L	1		8260B	Total/NA

Client Sample ID: MW-11								Lab Sample ID: 280-99137-3					
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type				
1,2,4-Trimethylbenzene	0.17	J	1.0	0.15	ug/L	1	_	8260B	Total/NA				
1,4-Dichlorobenzene	4.9		1.0	0.16	ug/L	1		8260B	Total/NA				
4-Isopropyltoluene	0.37	J	1.0	0.20	ug/L	1		8260B	Total/NA				
4-Methyl-2-pentanone (MIBK)	0.98	J	5.0	0.98	ug/L	1		8260B	Total/NA				
Acetone	25		10	1.9	ug/L	1		8260B	Total/NA				
Benzene	0.24	J	1.0	0.16	ug/L	1		8260B	Total/NA				
Chlorobenzene	0.49	Ĵ	1.0	0.17	ug/L	1		8260B	Total/NA				
Toluene	0.17	J	1.0	0.17	ug/L	1		8260B	Total/NA				

Client Sample ID: MW-3					Lab S	Lab Sample ID: 280-99137-4			
Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type	
28	-	10	1.9	ug/L	1	_	8260B	Total/NA	
0.17	J	1.0	0.17	ug/L	1		8260B	Total/NA	
0.33	J	1.0	0.16	ug/L	1		8260B	Total/NA	
	Result 28 0.17	Result Qualifier	Result         Qualifier         RL           28         10           0.17         J         1.0	Result         Qualifier         RL         MDL           28         10         1.9           0.17         J         1.0         0.17	Result         Qualifier         RL         MDL         Unit           28         10         1.9         ug/L           0.17         J         1.0         0.17         ug/L	Result         Qualifier         RL         MDL         Unit         Dil Fac           28         10         1.9         ug/L         1           0.17         J         1.0         0.17         ug/L         1	Result         Qualifier         RL         MDL         Unit         Dil Fac         D           28         10         1.9         ug/L         1           0.17         J         1.0         0.17         ug/L         1	Result 28         RL 10         MDL 1.9 ug/L         Unit ug/L         Dil Fac 28 8260B         Method 8260B           0.17 J         1.0         0.17 ug/L         1         8260B	

Client Sample ID: MW-12						Lab Sample iD: 280-99137-5		
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac D	Method	Prep Type
1,1-Dichloroethane	8.2		2.0	0.44	ug/L	2	8260B	Total/NA
1,1-Dichloroethene	0.51	J	2.0	0.46	ug/L	2	8260B	Total/NA
1,2,4-Trimethylbenzene	1.8	J	2.0	0.30	ug/L	2	8260B	Total/NA
1,2-Dichloroethene, Total	7.9		2.0	0.48	ug/L	2	8260B	Total/NA
1,3,5-Trimethylbenzene	0.63	J	2.0	0.32	ug/L	2	8260B	Total/NA
1,4-Dichlorobenzene	1.3	J	2.0	0.32	ug/L	2	8260B	Total/NA
4-isopropyltoluene	0.68	J	2.0	0.40	ug/L	2	8260B	Total/NA
Acetone	23		20	3.8	ug/L	2	8260B	Total/NA
Benzene	1.8	J	2.0	0.32	ug/L	2	8260B	Total/NA
cis-1,2-Dichloroethene	7.9		2.0	0.30	ug/L	2	8260B	Total/NA
Ethylbenzene	2.0		2.0	0.32	ug/L	2	8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver